

# RFID Tags

APPLICATION NOTE

REV. 1.3 | 15-07-2022 | E&OE



**AMINA**  
IMMERSIVE INVISIBLE SOUND

## Introduction

All current Amina loudspeakers are fitted with a passive radio frequency identification (RFID) chip carrying information about the speaker, which can be useful if the speakers need to be identified at a later date, without removing the speaker from the wall or ceiling.

## About RFID

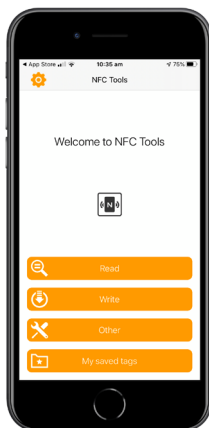
RFID is the wireless use of radio frequency waves to transfer data. The tags on Amina loudspeakers are passive, meaning they are not connected to a battery or any kind of power source. Instead, its power is supplied by the reading hardware - in this case a smartphone. When radio waves from the reader are encountered by the RFID tag, the coiled antenna within the tag forms a magnetic field. The tag draws power from it, energising the circuits in the tag. The tag then sends the information encoded in its memory to the reading device. This type of very low power consumption RFID tag has an extremely short-range of communication of 0 to 20mm\* meaning that the tags - which do not contain any personal information - are completely safe



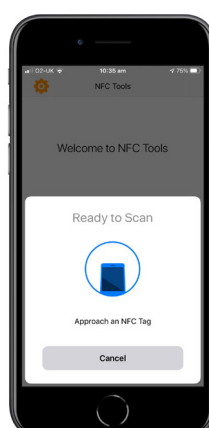
## Reading the RFID tag

Most smartphones are now equipped with NFC hardware. (A complete and periodically updated list can be found at <https://www.wiki/RGB>). In most cases an app will need to be installed on the smartphone: There is a huge range of apps available for all platforms, some requiring a separate reader hardware so it is advised to carefully read the app description to confirm compatibility with the device, as well as having the ability to use the phone's hardware to read. 'NFC Tools' by 'Wakdev' is a free app available on iOS and Android platforms that fulfils these requirements.

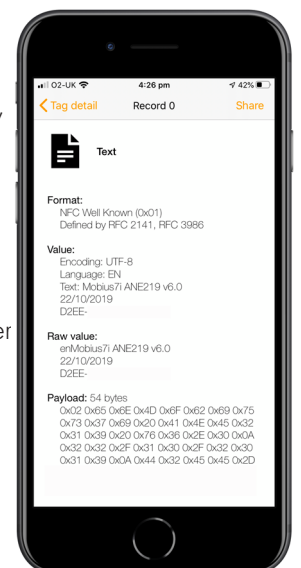
1: With an NFC app installed and open, hold the smartphone up to the approximate position of the RFID tag. In NFC tools, press 'read' to begin reading the tag - other apps may have a different interface.



2: If the tag isn't detected immediately, slowly move the smartphone around the area until it is detected. Hold the reader (smartphone) flat against the surface to minimise the distance between the reader and the tag.



3: When detected, the contents of the tag's memory will immediately show on-screen in the NFC app. In this example, we can see that the speaker is a Mobius7i that was manufactured in October 2019.



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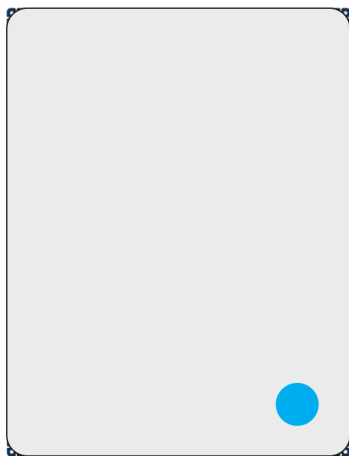


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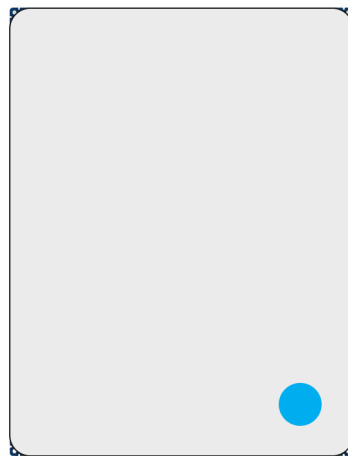
## RFID tag positions

The position of the RFID tag is marked on each speaker model below. Speakers are illustrated face-on.

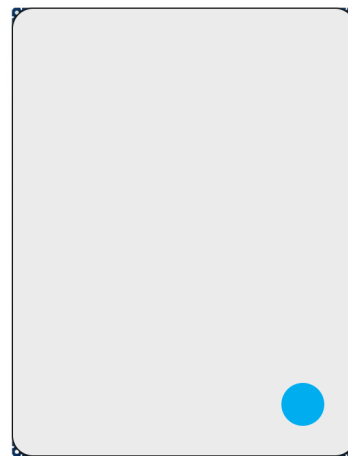
 = tag position



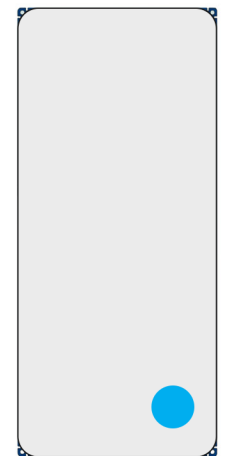
Mobius5i



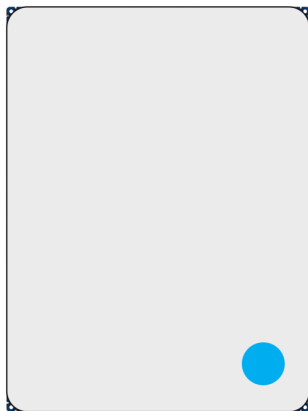
MobiusDual



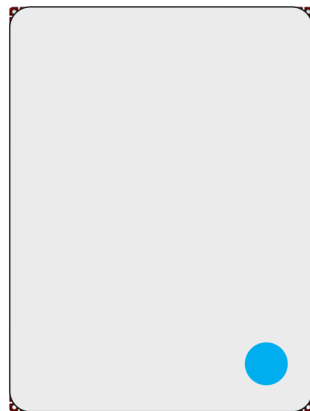
Mobius7i



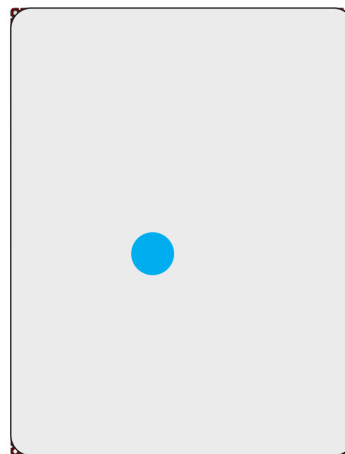
Mobius5i/S200



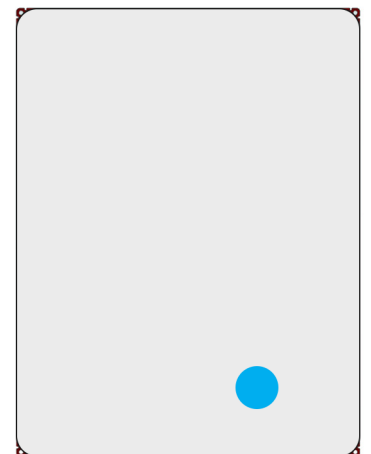
Mobius3



Edge3



Edge5i



Edge7i

## Other uses for RFID

Increasingly RFID is being used in smart homes to trigger automated tasks: Actions such as switching a phone to silent mode when an NFC tag on a nightstand is tapped, or automatically connecting guests devices to WiFi with a simple tap are becoming more common. We have not heard about Amina speakers being used as RFID triggers yet; it can only be a matter of time before we start to see more creative applications of this feature!

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