

FCC SUPPORTING EXHIBIT 09

ANTENNA SPECIFICATION

Basic integral PCB loop antenna information - Module Hardware V2

Brand / Module	ELECHOUSE / PN7161/PN7160 NFC MODULE
Subject Configuration	PN7161 I2C variant
Hardware / IC	V2 / PN7161A1HN/C100E
End-product Applicant	To be completed by the end-product applicant
End-product FCC ID	To be assigned by the end-product applicant
Document Revision	Rev. 1.0 2026-08-29

CONFIDENTIAL: Provided solely for the FCC laboratory/TCB review of the customer's end product. Handle in accordance with the applicable confidentiality agreement.

SUPPLIER SCOPE: This document describes the ELECHOUSE NFC module used as a component in a customer's end product. It does not claim that the module has a standalone FCC ID. The end-product applicant and test laboratory remain responsible for the final FCC filing, labeling, host configuration, and compliance statements.

1. Antenna Identification

Parameter	Declared Value
Module	PN7161/PN7160 NFC MODULE
Subject configuration	PN7161 I2C variant
Hardware version	V2
Antenna type	Integral PCB loop antenna
Quantity	One
Operating frequency	13.56 MHz
Far-field antenna gain	Not separately characterized; confirm with the laboratory if required
Coupling method	Near-field magnetic / inductive coupling
Connection	Direct PCB connection to the fixed onboard RF matching network
External connector	None

Parameter	Declared Value
Replaceable by user	No
Module PCB outline	Approximately 42.70 mm x 40.10 mm
VANT in evaluated host	5.0 V DC nominal; 4.75-5.25 V DC operating range

2. Antenna Photographs

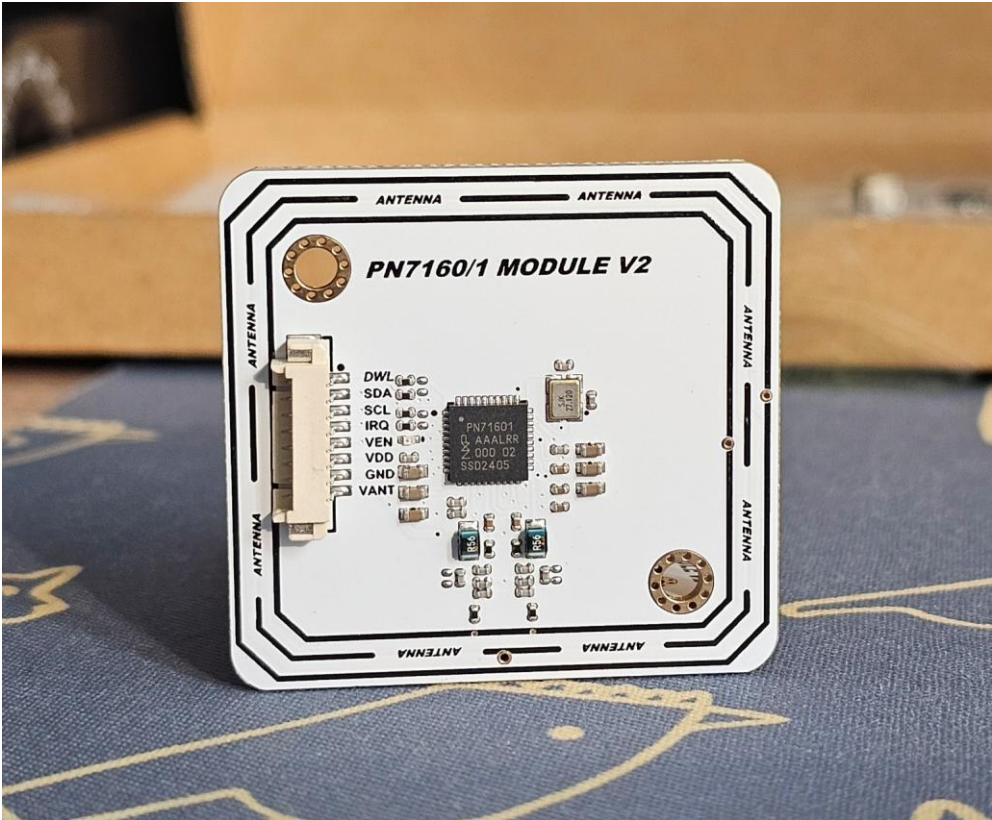


Figure 1. Module V2 front view. The integral loop antenna is visible around the PCB perimeter.

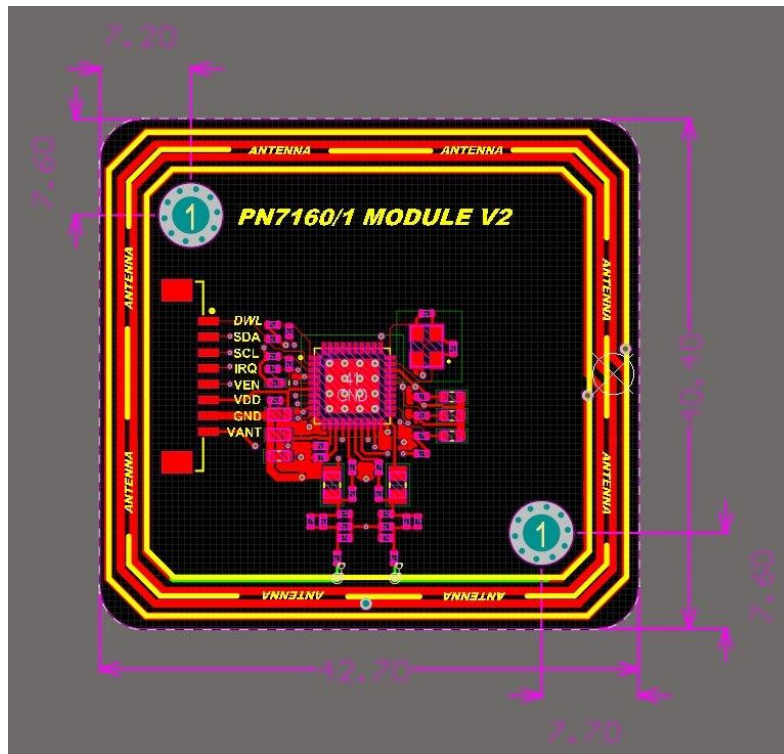


Figure 2. Basic Module V2 outline showing the antenna location. This image is for identification and laboratory review, not PCB fabrication.

3. Construction and RF Path

The antenna is formed by copper traces on the module PCB around the board perimeter. The loop is permanently connected to the PN7161 RF transmitter/receiver through the module's fixed EMC filter and impedance-matching network. No coaxial connector, user-selectable antenna, or provision for an external antenna is included.

4. Integration Conditions

- The antenna geometry and onboard RF matching network shall not be modified by the end-product manufacturer.
- The final host shall use the same Module V2 assembly represented by the FCC test sample; conductive objects, batteries, displays, metal frames, ground planes, and cable loops should be kept away from the antenna perimeter where practical.
- If metal must be placed near the antenna, the customer shall evaluate ferrite material and confirm performance and emissions using the final end-product construction.
- Any antenna, PCB, matching-network, enclosure, or nearby-metal change that can affect RF performance shall be reviewed with the test laboratory before production use.

5. Scope of this Basic Submission

This initial submission provides basic antenna identification and location images. Far-field gain is not separately characterized for this integral near-field loop. Proprietary geometry, Gerber, inductance/Q, and matching data may be supplied under NDA if specifically requested by the laboratory or TCB.

Company: HK ELECHOUSE LIMITED

Address: flat a516, 5/f, efficiency house, 35 tai yau street, san po kong, kln, hong kong