

HARMAN

30001 Cabot Drive
Novi, MI 48377 USA
☎ +1.248.785.2361
📠 +1.248.994.2703



16 March 2026

Federal Communications Commission
Authorization and Evaluation Division

Subject: Request for Class II Permissive Change

FCC ID: **2AHPN-BE28731**

To whom it may concern,

By means of this letter, **Harman International Industries, Incorporated** respectfully requests that a **Class II Permissive Change** be applied in accordance with FCC regulations, and that this new hardware version be considered for analysis.

The version previously certified by the FCC is no longer produced or manufactured. For this new version, a **5G upgrade** has been implemented along with minor physical component changes. Importantly, there is no difference in the device's functionality, as all units are 5G capable through firmware. The firmware was flashed to enable the 5G feature.

The only cosmetic or physical modification is the **Ethernet connector flip (180°)**, performed to facilitate access. The connector remains in the same location, and no changes were made to the copper traces on the PCB.

❖ **Hardware Changes**

NAD Module part number change: Only the part number in the bill of materials (BOM) was modified. There were no changes in form, fit, or function.

HW ID Circuit Update for D0 revision: 4 resistors changed from pop to de-pop or vice versa.

Component Update Due to Supply Preference (Harman): Part number changed in BOM. No change to form fit or function.

Change in Input Pin Functions (Zoox Change Request): Change two input pin functions from eCall to ID Pins.

Change from 1 Resistor to Series of Resistors: No functional impact.

Optimization of Low Power Mode in Ethernet PHY: Sleep current consumption was reduced by removing a transistor and adjusting resistance.

HARMAN

30001 Cabot Drive
Novi, MI 48377 USA

+1.248.785.2361

+1.248.994.2703



Voltage Level Change on WAKEIN Pin of Ethernet PHY: Voltage adjustment by changing resistance. Simple BOM change of one resistor value.

Ethernet Connector Flip Change: 180° rotation without modification to PCB footprint. Connector rotated 180 degrees vertically. No change to the PCB footprint or Copper on PCB.

Addition of Resistors on Ethernet MDI Lines: Two resistors added to improve performance.

PCB Ground Design Change: Symmetry adjustment under the Ethernet connector to improve performance.

❖ Software Changes

Regarding software, two major firmware changes have been introduced:

1. **Enabling of 5G bands:** Software-only changes, with no hardware impact.
2. **Implementation of Dual MAC in Wi-Fi:** Software-only changes, with no hardware impact.

5G is enabled on the HAD with new 5G CR from ZOOX. The 5G bands are listed: n1, n2, n3, n5, n7, n8, n20, n25, n28, n38, n41, n66, n71, n77(n78), of which only bands relevant for North America will be active.

Device supports 2 MAC concurrently, 2.4Ghz and 5Ghz:

2.4Ghz bands - 1,2,3,4,5,6,7,8,9,10,11.

5Ghz bands - 36,38,40,42,44,46,48,149,151,153,155,157,159,161,165.

Even the previously certified devices are 5G capable; however, since those units are no longer manufactured, we are submitting the newer hardware version for testing and certification.

For additional details on component-level changes (resistors and transistors), please refer to the submitted technical documentation.

HARMAN

3000I Cabot Drive
Novi, MI 48377 USA
☎ +1.248.785.2361
📠 +1.248.994.2703



We respectfully request that the Commission grant approval for this Class II Permissive Change.
Should you require further information or clarification, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Pranav B Patel", is written over a horizontal line.

By: **Pranav B Patel**

Title: **Sr. Engineer, Certification**

Company: **Harman International Industries Incorporated**

Telephone: **+1 248 985 1419**

e-mail: **Pranav.Patel@harman.com**