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HIFIMAN EF600

HIFIMAN EF600 Desktop Balanced Headphone DAC & Amplifier User Manual

1. Introduction

The HIFIMAN EF600 is a high-performance desktop balanced headphone DAC (Digital-to-Analog Converter) and amplifier. It integrates HIFIMAN's HYMALAYA PRO R2R DAC technology with a powerful headphone amplifier, offering versatile connectivity options including XLR, RCA, 6.35mm outputs, and high-resolution Bluetooth audio. Designed for home audio environments, the EF600 also functions as a headphone stand, combining functionality with a distinctive aesthetic.

Figure 1.1: Front view of the HIFIMAN EF600 unit.

2. Safety Information

- Read all instructions before operating the device.
- Keep the device away from water, moisture, and extreme temperatures.
- Do not attempt to disassemble or repair the unit yourself. Refer all servicing to qualified personnel.
- Ensure proper ventilation around the unit to prevent overheating.
- Use only the specified power supply and cables.
- Adjust volume levels responsibly to protect your hearing.

3. Package Contents

Verify that all items are present in the package:

- HIFIMAN EF600 Unit
- Power Cable
- USB Cable (Type-A to Type-B or Type-C)

- User Manual (this document)

4. Product Features

- **HYMALAYA PRO R2R DAC:** Features advanced R2R DAC technology for low distortion, low noise, and efficient power consumption.
- **Powerful Balanced Output:** Delivers 5.12W per channel, suitable for driving a wide range of headphones.
- **Optimized Thermal Design:** Engineered with a tower case design for convection cooling, placing the center of gravity at the bottom and cooling at the top for stable operation.
- **Versatile Connectivity:** Includes USB-B, USB-C, Coaxial, RCA, and Balanced XLR inputs, along with XLR 4-pin balanced and 6.35mm single-ended headphone outputs, and XLR balanced/RCA single-ended line outputs.
- **High-Resolution Bluetooth:** Supports multiple Bluetooth codecs, including aptX-HD, for high-fidelity wireless audio streaming.
- **Integrated Headphone Stand:** The unit's design allows it to function as a convenient headphone stand.

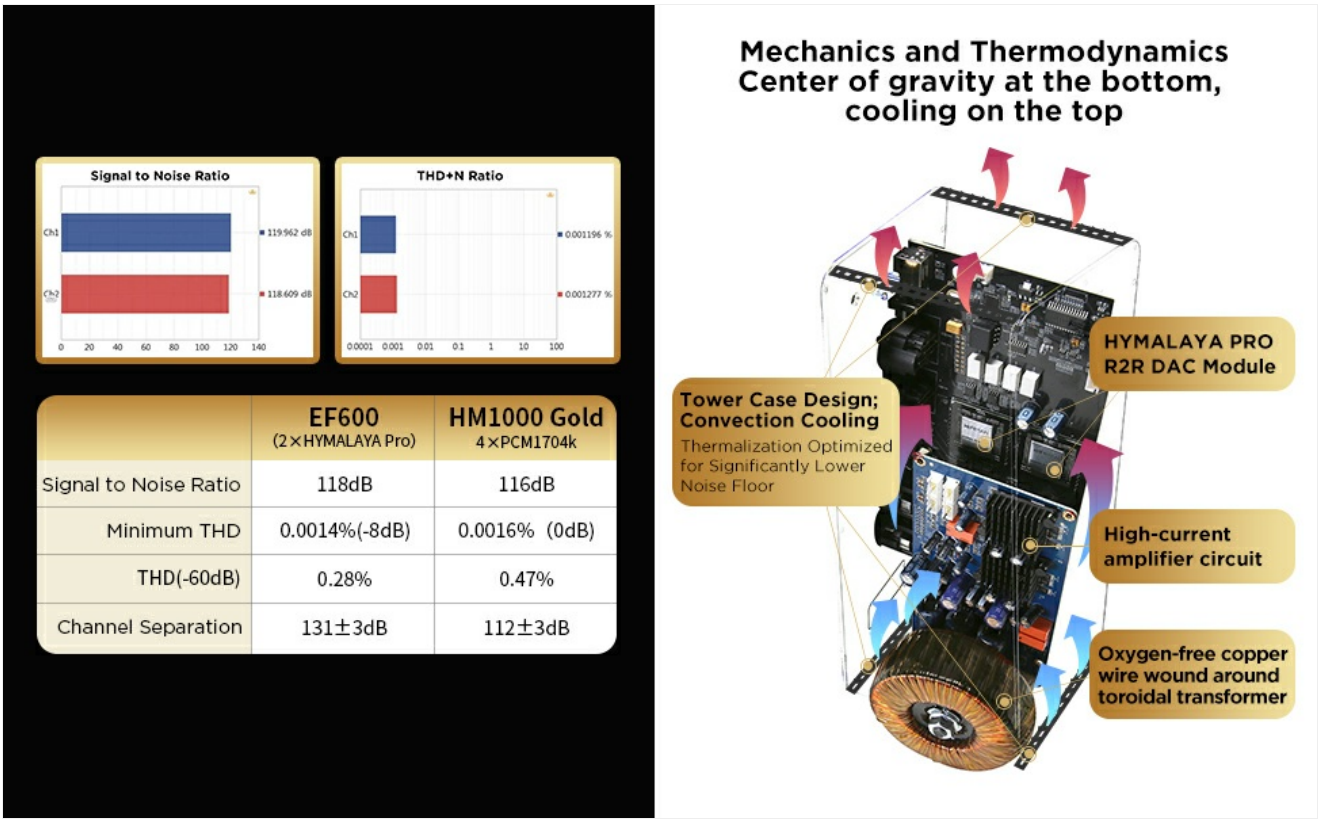


Figure 4.1: Internal design and thermal management of the EF600.

5. Controls and Connections

5.1 Front Panel

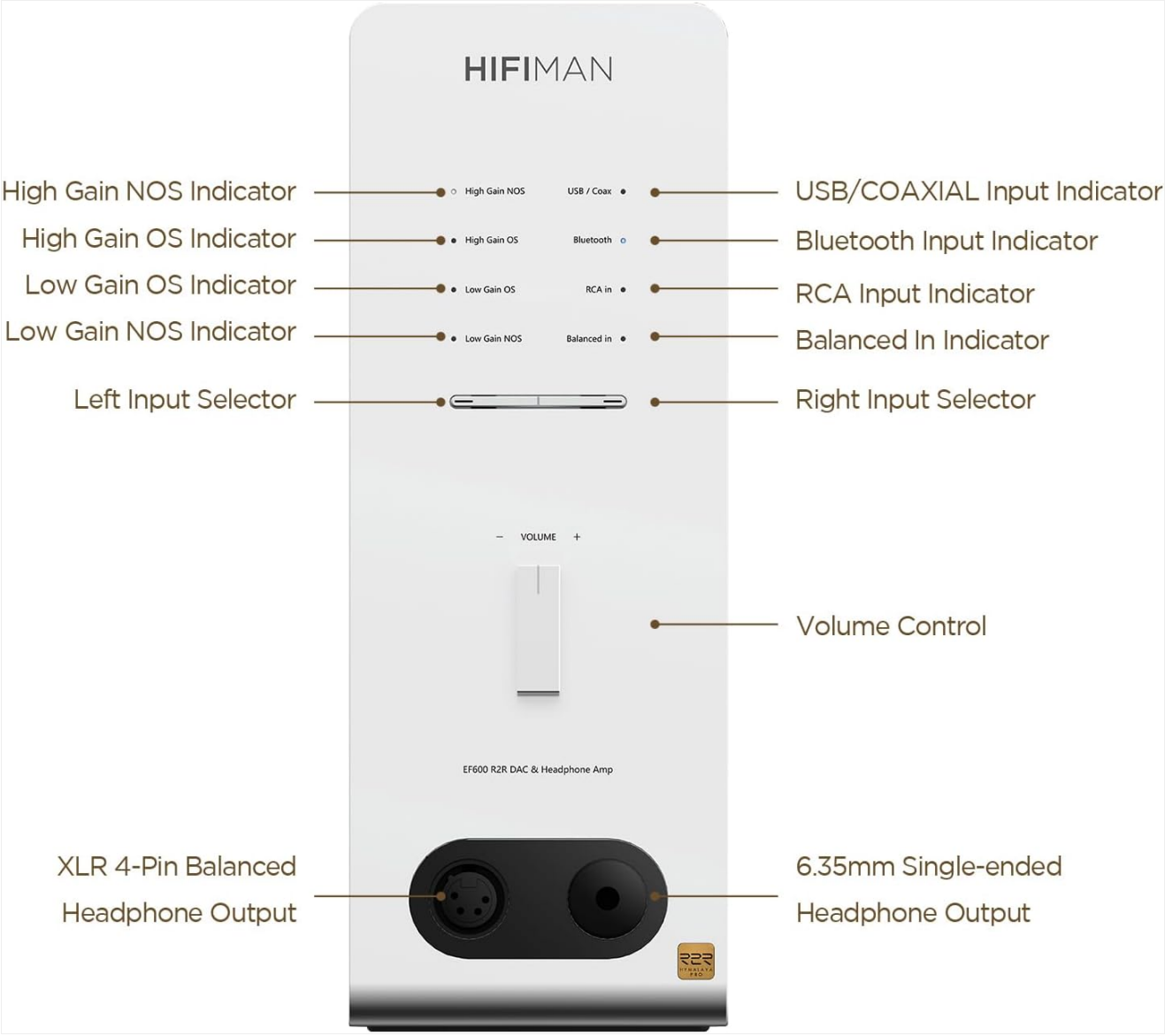


Figure 5.1: Front panel controls and indicators.

- **Gain/OS Indicators:** Display current gain mode (High/Low) and Oversampling (OS) or Non-Oversampling (NOS) status.
- **Input Indicators:** Show the active input source (USB/Coaxial, Bluetooth, RCA, Balanced In).
- **Input Selectors (Left/Right):** Buttons to cycle through available input sources.
- **Volume Control:** Rotary knob to adjust output volume.
- **XLR 4-Pin Balanced Headphone Output:** For balanced headphones.
- **6.35mm Single-ended Headphone Output:** For single-ended headphones.

5.2 Rear Panel

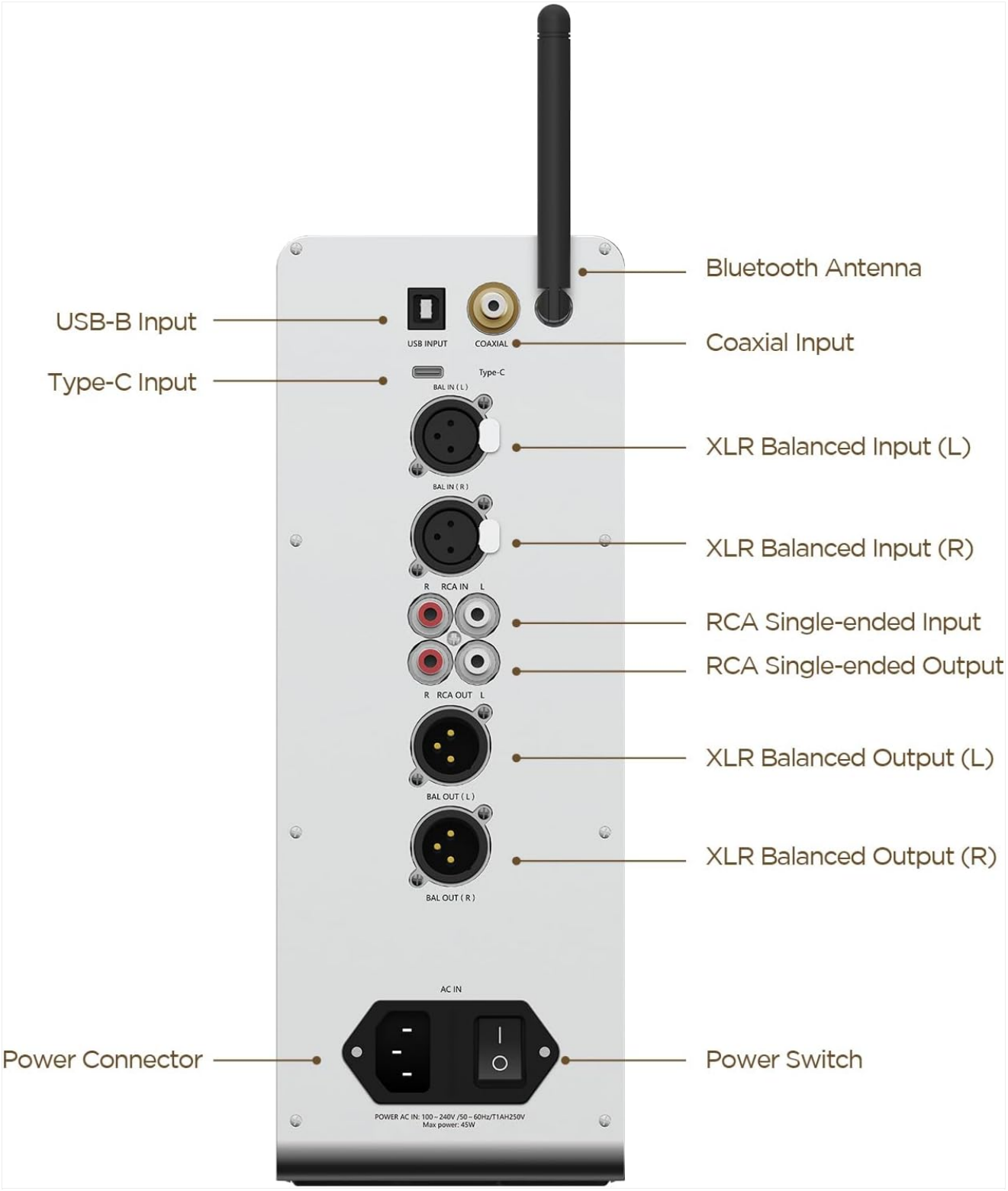


Figure 5.2: Rear panel connections.

- **Bluetooth Antenna:** For wireless Bluetooth connectivity.
- **USB-B Input:** Connect to a computer or other USB audio source.
- **Type-C Input:** Connect to devices with USB-C output.
- **Coaxial Input:** Digital audio input.
- **XLR Balanced Input (L/R):** Analog balanced audio input.
- **RCA Single-ended Input (L/R):** Analog single-ended audio input.
- **XLR Balanced Output (L/R):** Analog balanced line output to external amplifiers or active speakers.
- **Power Connector:** For connecting the AC power cable.
- **Power Switch:** To turn the unit on or off.

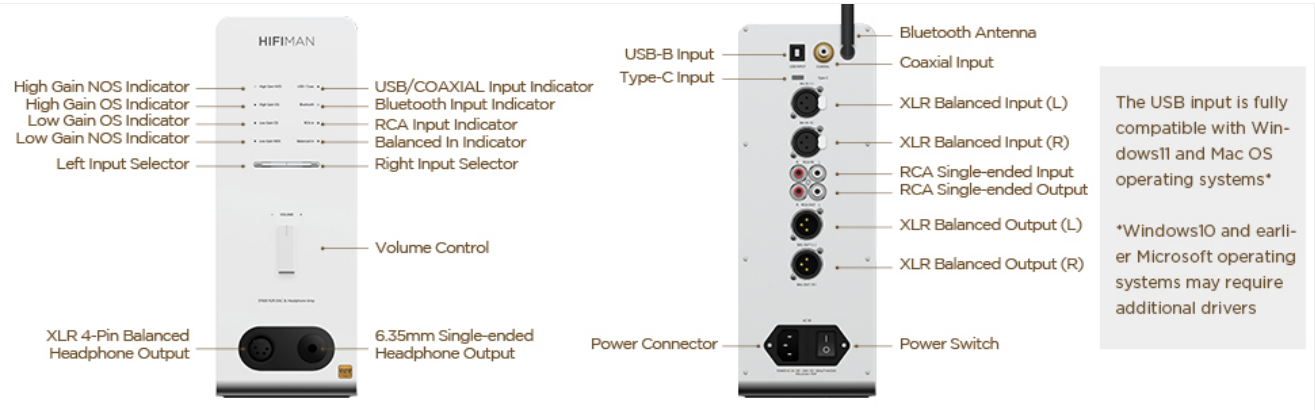


Figure 5.3: Front and rear panel overview with OS compatibility notes.

6. Setup

6.1 Placement

Place the EF600 on a stable, flat surface. Ensure adequate space around the unit for proper ventilation, especially at the top, to facilitate convection cooling. The unit's design allows it to serve as a headphone stand, providing a convenient storage solution for your headphones.

Figure 6.1: EF600 used as a headphone stand.

6.2 Power Connection

1. Before connecting the power cable, locate the AC 115V/230V voltage selector switch on the rear panel.
2. Ensure the switch is set to the correct voltage for your region (e.g., AC 115 for North America, AC 230 for Europe).

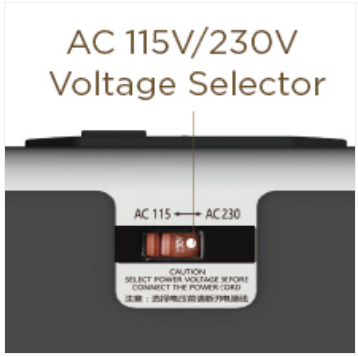


Figure 6.2: AC Voltage Selector.

3. Connect the provided power cable to the power connector on the rear panel and then to a suitable AC power outlet.

6.3 Connecting Audio Sources

The EF600 offers multiple input options:

- **USB-B / USB-C:** Connect your computer, smartphone, or other digital audio source using a compatible USB cable. For Windows 10 and earlier operating systems, additional drivers may be required.
- **Coaxial:** Connect digital audio sources such as CD players or media streamers via a coaxial cable.
- **RCA Single-ended Input:** Connect analog audio sources like preamplifiers or phono stages using RCA cables.
- **XLR Balanced Input:** For high-quality analog balanced audio input from compatible sources.

6.4 Connecting Headphones or External Amplifiers

The EF600 provides several output options:

- **XLR 4-Pin Balanced Headphone Output:** For headphones equipped with a 4-pin XLR balanced connector.
- **6.35mm Single-ended Headphone Output:** For headphones with a standard 6.35mm (1/4 inch) single-ended connector.
- **XLR Balanced Output (L/R):** To connect the EF600's DAC output to an external balanced amplifier or active speakers.
- **RCA Single-ended Output (L/R):** To connect the EF600's DAC output to an external single-ended amplifier or active speakers.

7. Operation

7.1 Power On/Off

Flip the power switch on the rear panel to the 'ON' position to power on the unit. Flip it to 'OFF' to power down.

7.2 Input Selection

Use the Left and Right Input Selector buttons on the front panel to cycle through the available input sources (USB/Coaxial, Bluetooth, RCA, Balanced In). The active input will be indicated by the corresponding LED on the front panel.

7.3 Gain Settings

The EF600 features different gain modes (High Gain, Low Gain) and Oversampling (OS) or Non-Oversampling (NOS) modes. These settings can be selected via the input selector buttons, and their status is indicated by the LEDs on the front panel. Experiment with these settings to find the optimal sound for your headphones and

preferences.

7.4 Volume Control

Rotate the large volume knob on the front panel to adjust the output level of the connected headphones or line outputs. Start with a low volume and gradually increase it to a comfortable listening level.

7.5 Bluetooth Pairing

1. Ensure the Bluetooth antenna is securely attached to the rear panel.
2. Select Bluetooth as the input source using the front panel input selector. The Bluetooth indicator LED will illuminate.
3. On your source device (e.g., smartphone, tablet), enable Bluetooth and search for available devices.
4. Select 'HIFIMAN EF600' from the list of devices to pair.
5. Once paired, the Bluetooth indicator LED on the EF600 may change status (e.g., solid light) to confirm connection.
6. The EF600 supports various Bluetooth codecs, including aptX-HD, for high-quality wireless audio.

Figure 7.1: Supported Bluetooth codecs.

8. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the unit. Avoid using liquid cleaners or solvents.
- **Ventilation:** Ensure that the ventilation openings are not blocked by dust or debris. Periodically clean them with a soft brush or compressed air.
- **Storage:** If storing the unit for an extended period, disconnect it from power and store it in a cool, dry place.

9. Troubleshooting

Problem	Possible Cause	Solution
No power	Power cable not connected; Power switch off; Incorrect voltage selector setting.	Ensure power cable is securely connected. Turn power switch ON. Verify AC voltage selector is set correctly for your region.
No sound from headphones	Incorrect input selected; Volume too low; Headphones not properly connected; Faulty headphones.	Select the correct input source. Increase volume. Ensure headphones are fully plugged in. Test with another pair of headphones.

Problem	Possible Cause	Solution
Bluetooth pairing fails	Bluetooth not selected as input; Device too far; Interference; EF600 already paired to another device.	Select Bluetooth input. Move source device closer. Ensure no metal objects are near the EF600's antenna. Disconnect from other devices.
Distorted audio	Source audio quality; Incorrect gain setting; Volume too high; Faulty cable.	Check source audio quality. Adjust gain settings. Reduce volume. Try a different cable.
USB input not recognized	Incorrect USB cable; Driver issue (Windows); USB input not selected.	Try a different USB cable. Install necessary drivers for your operating system (if applicable). Select USB input.

10. Specifications

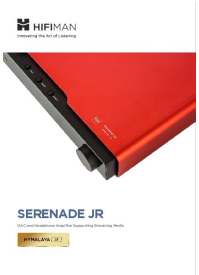
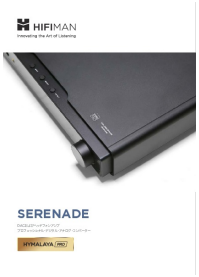
Feature	Specification
Model Name	EF600
Connectivity Technology	Wired, Wireless (Bluetooth)
Wireless Communication Technology	Bluetooth (supports aptX-HD, LDAC, AAC, SBC)
Headphones Jack	6.35 mm, XLR 4-pin
Output Power	5.12W per channel (Balanced)
Frequency Range	20 Hz - 20,000 Hz
Impedance	32 Ohm (typical headphone impedance)
Material	Metal
Product Dimensions	4.09 x 6.5 x 11.14 inches (104 x 165 x 283 mm)
Item Weight	6.34 pounds (2.88 Kilograms)
Manufacturer	HIFIMAN

Figure 10.1: Product Dimensions.

11. Warranty and Support

HIFIMAN products are designed for reliability and performance. For warranty information, technical support, or service inquiries, please refer to the official HIFIMAN website or contact their customer service directly. Keep your proof of purchase for warranty claims.

Related Documents - EF600

	HIFIMAN EF600 User Guide: Balanced Headphone Amplifier and DAC Comprehensive user guide for the HIFIMAN EF600, a flagship balanced headphone amplifier and DAC featuring Hymalaya Pro DAC module and Qualcomm aptX HD. Includes specifications, panel layouts, safety, and warranty information.
	HIFIMAN SERENADE JR DAC and Headphone Amplifier: User Guide and Specifications Comprehensive guide to the HIFIMAN SERENADE JR DAC and Headphone Amplifier, covering front and rear panel introductions, block diagram, specifications, package contents, limited warranty, and WEEE disposal information.
	HIFIMAN SERENADE DAC and Headphone Amplifier - Technical Specifications and User Guide Detailed information on the HIFIMAN SERENADE, a professional digital-analog converter and headphone amplifier, featuring HYMALAYA PRO technology. Includes front/rear panel descriptions, block diagram, technical specifications, package contents, and warranty information.
	HIFIMAN Serenade DAC and Headphone Amplifier: User Guide and Specifications Explore the HIFIMAN Serenade, a professional digital-to-analog converter and headphone amplifier. This guide covers front and rear panel operations, technical specifications, package contents, and the limited warranty for the HIFIMAN Serenade.

	[HIFIMAN EF1000DAC Balanced Headphone Amplifier and DAC User Guide] User guide for the HIFIMAN EF1000DAC Balanced Headphone Amplifier and DAC, covering safety precautions, technical specifications, key highlights, and warranty information.
	[HIFIMAN EF400 DAC/Headphone Amplifier Owner's Guide] Comprehensive owner's guide for the HIFIMAN EF400 DAC/Headphone Amplifier, detailing specifications, front/rear/bottom panel layouts, HIMALAYA DAC technology, precautions, and limited warranty information.

Documents - HIFIMAN – EF600

[pdf] User Manual Owner's Manual Guide

230524 EF600 HIFIMAN EF600 user guide EN AV Integra CZ HiFi a High end audio video avintegra cz img asp attid 100370357 |||

EF600 Balanced Headphone Amplifier and DAC User Guide FCC ID: 2BAQY-**EF600** 214-230009 HIFIMAN **EF600** 01 Thank you for choosing the HIFIMAN **EF600**, our flagship amplifier/DAC. This Owner s Manual will provide a helpful overview and familiarize you with the products features and proper usage. HIFIM...

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User Guide

[pdf] User Manual Owner's Manual Specifications Guide Warranty Accessories

230920 EF500 User Guide hifiman ef500 dac headphone amp owners manual soundapproach pub media s HIFIMAN ||| ||| EF500 Balanced Headphone Amplifier and DAC User Guide Hello Thank you for choosing the HIFIMAN EF500, our flagship amplifier/DAC. This Owners Manual will provide a helpful overview and familiarize you with the product s features and proper

EF500 Balanced Headphone Amplifier and DAC User Guide Hello Thank you for choosing the HIFIMAN EF5 ... extensive experience in voicing high-end headphones and electronics. Following the success of the **EF600**, HIFIMAN introduces the EF500, designed for audiophile-grade desktop performance. Featuring HI...

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User Manual HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 2BAQY 2BAQYEF600 ef600

EF600 Balanced Headphone Amplifier and DAC User Guide HIFIMAN **EF600** 01 Thank you for choosing the HIFIMAN **EF600**, our flagship DAC and amplifier that is one of the finest on the market. This Owner s Manual will provide a helpful overview and familiarize you with the product s features and proper ...

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[pdf] User Manual Owner's Manual Guide

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[pdf] User Manual Owner's Manual Guide

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EF600 Balanced Headphone Amplifier and DAC User Guide FCC ID: 2BAQY-**EF600** 214-230009 HIFIMAN **EF600** 01 Thank you for choosing the HIFIMAN **EF600**, our flagship amplifier/DAC. This Owner s Manual will provide a helpful overview and familiarize you with the products features and proper usage. HIFIM...

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HIFIMAN EF600 User Guide: Balanced Headphone Amplifier and DAC

Comprehensive user guide for the HIFIMAN EF600, a flagship balanced headphone amplifier and DAC featuring Hymalaya Pro DAC module and Qualcomm aptX HD. Includes specifications, panel layouts, safety, and warranty information.

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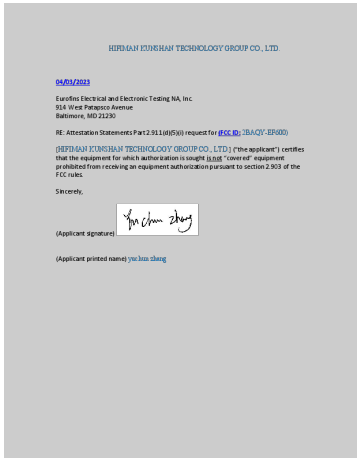

HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD.

04/03/2023

Eurofins Electrical and Electronic Testing NA, Inc.
914 West Patapsco Avenue
Baltimore, MD 21230

RE: Attestation Statements Part 2.911 (d)(5)(i) request for (FCC ID: 2BAQY-EF600)

(HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD.) ("the applicant") certifies that the equipment for which authorization is sought is not "covered" equipment prohibited from receiving an equipment authorization pursuant to section 2.903 of the FCC rules.

Sincerely,

(Applicant signature)

(Applicant printed name) yuchun zhang

[pdf]

Please produce a letter on your company letterhead with the following information Attestation Statements HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 2BAQY 2BAQYEF600 ef600

HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD. 04/03/2023 Eurofins Electrical and Electronic Testing NA, Inc. 914 West Patapsco Avenue Baltimore, MD 21230 RE: Attestation Statements Part 2.911 d 5 i request for FCC ID: 2BAQY-**EF600** HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD. the applicant certi...

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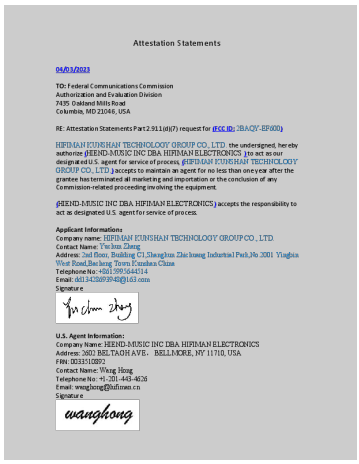

Attestation Statements

04/03/2023

TO: Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046, USA

RE: Attestation Statements Part 2.911 (d)(7) request for (FCC ID: 2BAQY-EF600)

HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD. the undersigned, hereby authorize (HEEND-MUSIC INC DBA HIFIMAN ELECTRONICS) to act as our designated U.S. agent for service of process, (HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD.) accepts to maintain an agent for no less than one year after the grantee has terminated all marketing and importation or the conclusion of any Commission-related proceeding involving the equipment.

(HEEND-MUSIC INC DBA HIFIMAN ELECTRONICS) accepts the responsibility to act as designated U.S. agent for service of process.

Applicant Information:
Company name: HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD.
Contact Name: Yuchun Zhang
Address: 2nd floor, Building C1,Shanghua Zhichuang Industrial Park,No 2001 Yingbin West Road,Bachang Town Kunshan China
Telephone No: +86159956445 14
Email: dd134280939 48@163.com
Signature

U.S. Agent Information:
Company Name: HEEND-MUSIC INC DBA HIFIMAN ELECTRONICS
Address: 2602 BELTAGH AVE. BELLMORE, NY 11710, USA
FRN: 0033510892
Contact Name: Wang Hong
Telephone No: +1-201-443-4626
Email: wanghong@hifiman.cn
Signature

wanghong

[pdf]

CANADIAN REPRESENTATIVE LETTER OF ATTESTATION US agent HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 2BAQY 2BAQYEF600 ef600

Attestation Statements 04/03/2023 TO: Federal Communications Commission Authorization and Evaluation Division 7435 Oakland Mills Road Columbia, MD 21046, USA RE: Attestation Statements Part 2.911 d 7 request for FCC ID: 2BAQY-**EF600** HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD. the undersigned, here...

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[pdf] User Manual Owner's Manual Specifications Guide Warranty Accessories

230920 EF500 Product Page Featureshifiman ef500 manualcdn shopify s files 1 0821 3486 0085 hifiman manual v 1731672729 |||

EF500 Balanced Headphone Amplifier and DAC User Guide Hello Thank you for choosing the HIFIMAN EF5 ... extensive experience in voicing high-end headphones and electronics. Following the success of the **EF600**, HIFIMAN introduces the EF500, designed for audiophile-grade desktop performance. Featuring HI...

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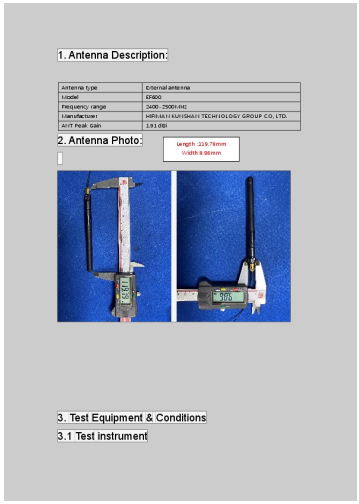
1. Antenna Description:

Antenna type	External antenna
Model	EF600
Frequency range	2400-2500MHz
Manufacturer	HIFIMAN KUNSHAN TECHNOLOGY GROUP CO, LTD.
ANT Peak Gain	1.91 dBi

2. Antenna Photo:

Length :119.79mm
Width:9.86mm

3. Test Equipment & Conditions

3.1 Test instrument

[pdf] Test Report

xulai wang ATN Test Report HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 Headphone Amplifier 2BAQY 2BAQYEF600 ef600

1. Antenna Description: Antenna type Model Frequency range Manufacturer ANT Peak Gain External antenna **EF600** 2400-2500MHz HIFIMAN KUNSHAN TECHNOLOGY GROUP CO, LTD. 1.91 dBi 2. Antenna Photo: Length :119.79mm Width:9.86mm 3. Test Equipment Conditions 3.1 Test instrument VSWR is tested using ...

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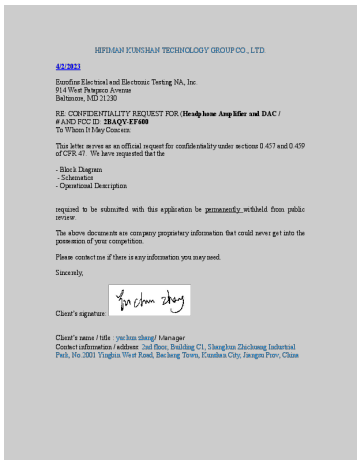
HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD.

4/2/2023

Eurofins Electrical and Electronic Testing NA, Inc.
914 West Patapsco Avenue
Baltimore, MD 21230

RE: CONFIDENTIALITY REQUEST FOR (**Headphone Amplifier and DAC** / # AND FCC ID: **2BAQY-EF600**
To Whom It May Concern:

This letter serves as an official request for confidentiality under sections 0.457 and 0.459 of CFR 47. We have requested that the

- Block Diagram
- Schematics
- Operational Description

required to be submitted with this application be permanently withheld from public review.

The above documents are company proprietary information that could never get into the possession of your competitors.

Please contact me if there is any information you may need.

Sincerely,

Client's signature:

Client's name / title : yuchu zhang/ Manager
Contact information / address: 2nd floor, Building C1, Shangkun Zhichuang Industrial Park, No.2001 Yinghin West Road, Bacheng Town, Kunshan City, Jiangsu Prov, China

[pdf] Confidentiality Request Letter

Please produce a letter on your company letterhead with the following information Long term Confidentiality Letter HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 2BAQY 2BAQYEF600 ef600

HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD. 4/2/2023 Eurofins Electrical and Electronic Testing NA, Inc. 914 West Patapsco Avenue Baltimore, MD 21230 RE: CONFIDENTIALITY REQUEST FOR Headphone Amplifier and DAC / # AND FCC ID: 2BAQY-**EF600** To Whom It May Concern: This letter serves as an official requ...

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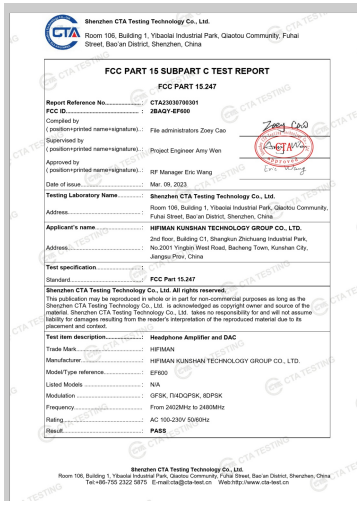
Shenzhen CTA Testing Technology Co., Ltd.
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

FCC PART 15 SUBPART C TEST REPORT

FCC PART 15.247

Report Reference No.	CTA23030700301
FCC ID	2BAQY-EF600
Compiled by (position+printed name+signature)	File administrators Zoey Cao
Supervised by (position+printed name+signature)	Project Engineer Amy Wen
Approved by (position+printed name+signature)	RF Manager Eric Wang
Date of issue	Mar. 09, 2023
Testing Laboratory Name	Shenzhen CTA Testing Technology Co., Ltd.
Address	Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China
Applicant's name	HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD.
Address	2nd floor, Building C1, Shangkun Zhichuang Industrial Park, No.2001 Yinglin West Road, Bacheng Town, Kunshan City, Jiangsu Prov, China
Test specification	
Standard	FCC Part 15.247

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Test item description	Headphone Amplifier and DAC
Trade Mark	HIFIMAN
Manufacturer	HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD.
Model/Type reference	EF600
Listed Models	N/A
Modulation	GFSK, П4DQPSK, 8DPSK
Frequency	From 2402MHz to 2480MHz
Rating	AC 100-230V 50/60Hz
Result	PASS

Shenzhen CTA Testing Technology Co., Ltd.
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China
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[pdf] Test Report

EMC TRF Template Tara Mitchell Test Report 1 HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 Headphone Amplifier 2BAQY 2BAQYEF600 ef600

Shenzhen CTA Testing Technology Co., Ltd. Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Co ... nted name signature .. : Supervised by position printed name signature .. : CTA23030700301 2BAQY-**EF600** File administrators Zoey Cao Project Engineer Amy Wen Approved by position printed name sig...

lang:en score:30 filesize: 5.47 M page_count: 33 document date: 2023-04-06

[pdf] User Manual Owner's Manual Guide

230524 EF600 Balanced Headphone Amplifier and DAC 4988 20231123093826 14850 i00 eu file 24

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EF600 Balanced Headphone Amplifier and DAC User Guide FCC ID: 2BAQY-**EF600** 214-230009 Thank you for choosing the HIFIMAN **EF600**, our flagship amplifier/DAC. This Owner s Manual will provide a helpful overview and familiarize you with the products features and proper usage. HIFIMAN is a world-famou...

lang:en score:30 filesize: 647.4 K page_count: 13 document date: 2023-11-23

[pdf] Product Photos Teardown

EXTERIOR PHOTOGRAPHS Tian Internal Photos HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 Headphone Amplifier 2BAQY 2BAQYEF600 ef600

Internal Photos of the EUT Photo 1 FCC ID: 2BAQY-**EF600** Photo 2 Photo 3 Photo 4 FCC ID: 2BAQY-**EF600** Photo 5 Photo 6 BT External Antenna Photo 7 FCC ID: 2BAQY-**EF600** Photo 8 Photo 9 Photo 10 FCC ID: 2BAQY-**EF600** Photo 11 Photo 12 Photo 13 FCC ID: 2BAQY-**EF600** Photo 14 Photo 15 P...

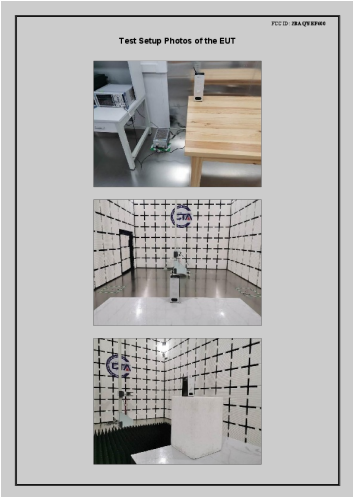
lang:en score:26 filesize: 1.61 M page_count: 8 document date: 2023-04-02

[pdf] Product Photos

EXTERIOR PHOTOGRAPHS Tian External Photos HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 Headphone Amplifier 2BAQY 2BAQYEF600 ef600

External Photos of the EUT Photo 1 FCC ID: 2BAQY-**EF600** Photo 2 Photo 3 Photo 4 FCC ID: 2BAQY-**EF600** Photo 5 Photo 6 ...

lang:en score:25 filesize: 356.35 K page_count: 2 document date: 2023-04-02



[pdf] Product Photos

Tian Test Setup Photos HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 Headphone Amplifier 2BAQY 2BAQYEF600 ef600

Test Setup Photos of the EUT FCC ID: 2BAQY-**EF600** ...

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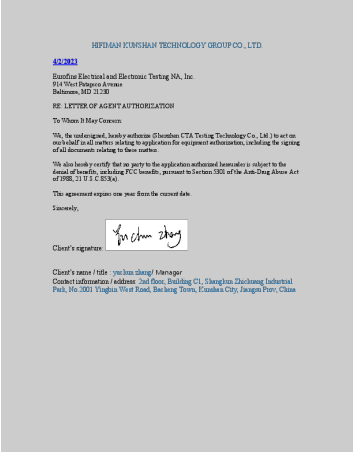
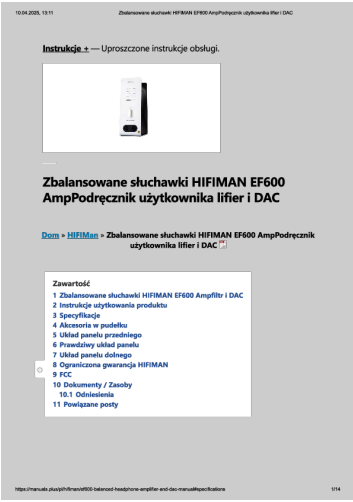


[pdf] Agent Authorization

Date Agent Authorization HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 2BAQY 2BAQYEF600 ef600

HIFIMAN KUNSHAN TECHNOLOGY GROUP CO., LTD. 4/2/2023 Eurofins Electrical and Electronic Testing NA, Inc. 914 West Patapsco Avenue Baltimore, MD 21230 RE: LETTER OF AGENT AUTHORIZATION To Whom It May Concern: We, the undersigned, hereby authorize Shenzhen CTA Testing Technology Co., Ltd. to act on o...

lang:en score:23 filesize: 113.37 K page_count: 1 document date: 2023-04-02



[pdf] User Manual Specifications

Zbalansowane sBuchawki HIFIMAN EF600 AmpPodr˘cznik u ytkownika lifier i DAC słuchawki AmpPodręcznik Apr 10 2025 — manuals plus pl hifiman ef600 balanced headphone amplifier and dac manual specifications 1 14 Page 2 04 13 11 Instrukcja obslugi mediaexpert products files 71 7146356 ||| ...

lang:en score:23 filesize: 1.71 M page_count: 14 document date: 2025-04-10

RF Exposure evaluation

FCC ID: 2BAQY-EF600

1.1. Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.
According to §1.1310 and §2.1093 RF exposure requirement
KDB447498 v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies

1.2. Requirement

According to KDB447498 D01 General RF Exposure Guidance v06 Section 4.3.1 Standalone SAR test exclusion considerations: "Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition, listed below, is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.22 The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or radiators such as the device surface, edge or corner that is positioned to the user or bystanders per applicable requirements. Users of the body or extremity and a user or bystander (see 3) of section 4.1). To qualify for KDB test exclusion, the test separation distances applied must be fully explained and justified by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, typically in the SAR measurement or SAR analysis report, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting is required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for the SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops & tablets etc.23".
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:
• f(GHz) is the RF channel transmit frequency in GHz
• Power and distance are rounded to the nearest mW and mm before calculation
• The result is rounded to one decimal place for comparison
• 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below
The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 6) in section 4.1 is applied to determine SAR test exclusion.

1.3. Manufacturing tolerance

BT GFSK(Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	1.0	1.0	1.0
Tolerance ±(dB)	1.0	1.0	1.0

BT π/4DQPSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	0.0	0.0	0.0
Tolerance ±(dB)	1.0	1.0	1.0

BT 8DPSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	0.0	0.0	0.0
Tolerance ±(dB)	1.0	1.0	1.0

[pdf] SAR Rating

EMC TRF Template eie RF Exposure Info HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 Headphone Amplifier 2BAQY 2BAQYEF600 ef600

FCC ID: 2BAQY-**EF600** RF Exposure evaluation 1.1. Applicable Standard According to 1.1307 b 1 , systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission s guidelines. ...

lang:en score:22 filesize: 122.89 K page_count: 2 document date: 2023-04-02

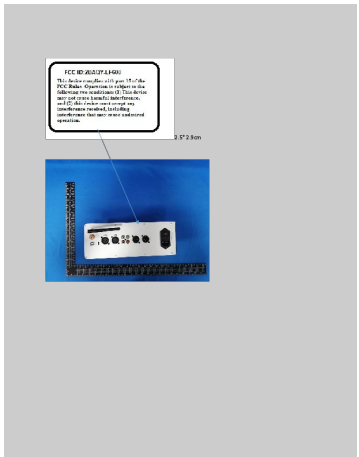
User Guide

[pdf] User Manual Owner's Manual Specifications Guide Warranty Accessories

241227 EF500 Download20250211034317 62223hifiman attachments file 20250211 20250211034317 62223 |||

EF500 Balanced Headphone Amplifier and DAC User Guide Hello Thank you for choosing the HIFIMAN EF5 ... extensive experience in voicing high-end headphones and electronics. Following the success of the **EF600**, HIFIMAN introduces the EF500, designed for audiophile-grade desktop performance. Featuring HI...

lang:en score:18 filesize: 714.49 K page_count: 15 document date: 2025-02-05

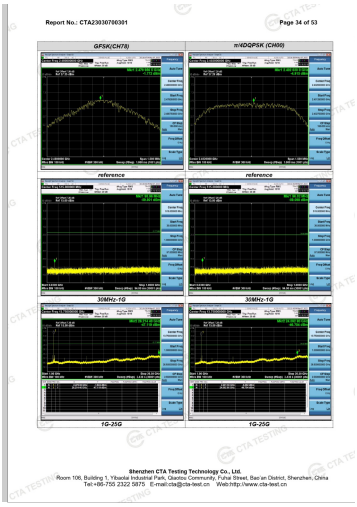


[pdf] Label

Tom Zhang ID Label Location Info HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 Headphone Amplifier 2BAQY 2BAQYEF600 ef600

2.5*2.9cm ...

lang:en score:14 filesize: 77.02 K page_count: 1 document date: 2023-04-02


Report No.: CTA23030700301 Page 34 of 53

GFSK(CH78) π/4DQPSK (CH00)

reference reference

30MHz-1G 30MHz-1G

1G-25G 1G-25G

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[pdf] Test Report

EMC TRF Template Tara Mitchell Test Report 2 HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 Headphone Amplifier 2BAQY 2BAQYEF600 ef600

Report No.: CTA23030700301 GFSK CH78 Page 34 of 53 /4DQPSK CH00 reference reference 30MHz-1G 30MHz-1G 1G-25G 1G-25G Shenzhen CTA Testing Technology Co., Ltd. Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao an District, Shenzhen, China Tel: 86-755 2322 ...

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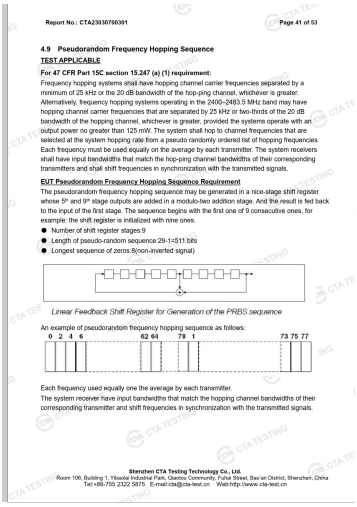
Report No.: CTA23030700301 Page 41 of 53

4.9 Pseudorandom Frequency Hopping Sequence

TEST APPLICABLE

For 47 CFR Part 15C section 15.247 (a) (1) requirement:

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hop-ping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hop-ping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

EUT Pseudorandom Frequency Hopping Sequence Requirement

The pseudorandom frequency hopping sequence may be generated in a nice-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first one of 9 consecutive ones, for example: the shift register is initialized with nine ones.

- Number of shift register stages:9
- Length of pseudo-random sequence:29-1=511 bits
- Longest sequence of zeros:8(non-inverted signal)

Linear Feedback Shift Register for Generation of the PRBS sequence

An example of pseudorandom frequency hopping sequence as follows:

0 2 4 6 62 64 78 1 73 75 77

Each frequency used equally one the average by each transmitter.
The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitter and shift frequencies in synchronization with the transmitted signals.

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EMC TRF Template Tara Mitchell Test Report 3 HIFIMAN KUNSHAN TECHNOLOGY GROUP CO LTD EF600 Headphone Amplifier 2BAQY 2BAQYEF600 ef600

Report No.: CTA23030700301 Page 41 of 53 4.9 Pseudorandom Frequency Hopping Sequence TEST APPLICABLE For 47 CFR Part 15C section 15.247 a 1 requirement: Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hop-p...

lang:en score:14 filesize: 2.57 M page_count: 13 document date: 2023-04-06