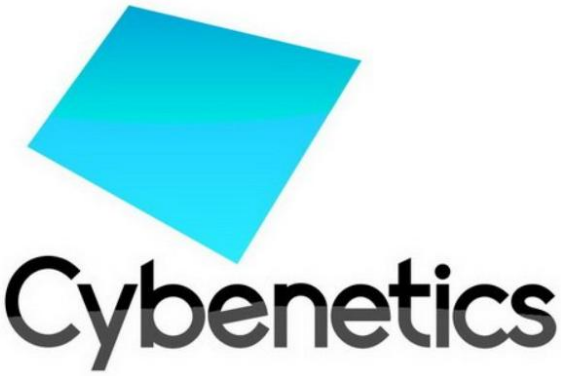
PRODUCT CERTIFICATION BODY



ISO/IEC 17065:2012

P16-F01

Cybenetics Certification Scheme for PSU and Cooling Product Performance

Version 05 — November 2, 2026

Prepared By (signature, name, title)	Approved By (signature, name, title)	Date
Aristeidis Bitziopoulos Certification Body General Manager and Scheme Manager Signature:	Aristeidis Bitziopoulos Certification Body General Manager and Scheme Manager Signature:	**02-11-2026**

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1. PURPOSE

The purpose of this Cybenetics Certification Scheme is to provide a technically rigorous and transparent mechanism for evaluating and certifying the real-world performance characteristics of power supply units (PSUs) and fans. This scheme aims to support consumers, manufacturers, system integrators, and retailers by delivering standardized, laboratory-tested performance data in key areas, including:

- ETA: Efficiency testing and certification of power supplies.
- LAMBDA: Acoustic noise level certification of power supplies.
- PHI: Airflow and static pressure performance certification of fans.
- EMI: Conducted emissions compliance testing.

The certification scheme enables:

- Informed purchasing decisions based on independently verified metrics,
- Product differentiation for manufacturers through credible performance labeling, and
- Increased transparency in marketing and technical specification claims.

Certification is based on testing representative product samples by ISO/IEC 17025-accredited Laboratory, with results evaluated against predefined performance classes, following Cybenetics' PSU and Fan Test Protocols. The laboratory results include additional data from non-accredited tests and measurements for informational purposes.

The scheme does not involve ongoing surveillance of production and follows the structure of a **Type 1a** product certification scheme as defined in ISO/IEC 17067, with extended metrics beyond traditional single-parameter evaluations.

Cybenetics is the Scheme Owner of the present Scheme titled '**Cybenetics Certification Scheme for PSU and Cooling Product Performance'**

2. SCOPE

Cybenetics' certification scheme is designed to provide a comprehensive evaluation of key performance metrics in products such as power supply units (PSUs) and fans. These schemes focus on performance aspects that include efficiency, noise, airflow, static pressure, conducted emissions, ensuring transparent and reliable benchmarks for manufacturers and consumers alike. Certifications target entire production lines by analyzing representative samples to validate product quality and consistency. By incorporating advanced testing methodologies from the ETA, LAMBDA, PHI and conducted emissions programs, as well as protocols outlined in Cybenetics' internal methods, these certification schemes reflect the highest standards of precision and integrity.

The test evaluates one representative sample from the production line. A second sample may undergo testing only if there are technical issues or discrepancies with the first, ensuring cost-effectiveness without compromising accuracy. This approach highlights Cybenetics' commitment to balancing accessibility and transparency in its certification programs.

Cybenetics' certification programs are voluntary and intended to validate performance in specific aspects (efficiency, noise, airflow, static pressure, and conducted emissions) without imposing excessive costs on clients.

3. Normative References

ISO/IEC 17067:2013 – Fundamentals of product certification

ISO/IEC 17065 – Conformity assessment requirements for certification bodies

ISO/IEC 17025 – Testing laboratory competence

IEC 62ISO 7779 – Acoustics - Measurement of noise emissions from IT equipment

EN55032 / CISPR 32– EMC testing

4. Certification Objectives

The primary objectives of Cybenetics' certification schemes are structured to promote quality, reliability, and informed decision-making:

1. **Define Performance Metrics**: Certification programs establish transparent performance levels for specific product aspects, including energy efficiency, acoustic comfort, thermal performance and conducted emissions.
2. **Detect and Resolve Issues**: Based on the test data, the evaluation process identifies potential design or production issues, allowing manufacturers to address deficiencies before they affect end-users.
3. **Independent Validation**: Certifications provide unbiased third-party testing, enhancing credibility and offering valuable feedback during the product development lifecycle.
4. **Consumer Empowerment**: By categorizing products into clear performance tiers, certifications enable future buyers to make well-informed purchasing decisions based on independently verified metrics.

5. Sampling Methodology

The sampling process emphasizes impartiality and fairness, ensuring that test results reflect the production line's overall quality:

- **Random Sample Selection**: Manufacturers submit two random samples from the production line. These samples represent the quality and consistency of the entire production batch.
- **Declaration of Authenticity**: Each sample must be accompanied by a formal declaration affirming that it is a standard production-grade unit, identical to those sold to consumers. This ensures that no "Golden samples" (specially optimized units) are submitted.
- **Re-Evaluation for Anomalies**: If the first sample encounters technical issues or its performance raises concerns, the second sample is tested. If there are significant discrepancies between the two samples, manufacturers may be required to submit additional units for comprehensive re-evaluation.

This methodology prevents manipulation and ensures that certification results accurately represent real-world production quality.

6. Evaluation and Testing Criteria

Cybenetics employs advanced and rigorous protocols to evaluate submitted products. Testing spans multiple critical metrics, integrated with the ETA, LAMBDA, PHI and EMI methodologies:

6.1 Efficiency Testing with ETA

ETA certification evaluates the energy efficiency of PSUs, leveraging innovative methodologies to provide unparalleled precision. Highlights include:

- **Load Combination Testing**: Over 1.450 load combinations are applied, which through interpolation can generate up to 25.000 measurement points. This eliminates the possibility of manufacturers from tuning their PSUs for specific load levels, offering a holistic evaluation of energy efficiency across the PSU's entire operational range.
- **Comprehensive Metrics**: Testing measures voltage regulation, power factor, ripple levels, and vampire power consumption. Vampire power—energy consumed when the device is idle—must remain below strict thresholds (<0,25 W for most tiers).
- **5VSB Rail Efficiency**: Efficiency on the 5VSB rail is measured in increments of 0,05 A, up to the maximum output current. The average efficiency must meet or exceed 70%, with stricter thresholds for higher certification levels.
- **Certification Tiers**: ETA certifications are awarded across six (6) tiers: **Bronze**, **Silver**, **Gold**, **Platinum**, **Titanium**, and **Diamond**, representing increasing levels of energy efficiency.

6.2 Noise Testing with LAMBDA

LAMBDA certification focuses on the acoustic performance of PSUs, using advanced decibel (dB) scaling techniques:

- **Logarithmic Adjustments**: Noise levels are converted to sound pressure units (Pa) for averaging, then converted back to dB. This approach ensures accuracy and reliability, even for borderline cases.
- **Evaluation Levels**: Noise performance is categorized into seven tiers, ranging from Standard (40-45 dB(A)) to A++ (<15 dB(A)), enabling consumers to distinguish between quiet and noisier PSUs.

6.3 Fan Testing with PHI

The PHI certification evaluates the cooling performance of fans, emphasizing airflow and static pressure under realistic conditions:

- **Normalized Noise Output: Maximum noise ≥25 dBA: use the measured 25 dBA point and unchanged 25 dBA ladders. 20≤maximum noise<25 dBA: use the fan's own measured 20 dBA point and the 20 dBA ladders. Maximum noise<20 dBA: no performance level. Missing measured points do not authorize extrapolation. Each band includes its lower limit and excludes the next tier's lower limit; Diamond is open-ended.**
- **Performance Metrics**: Airflow and static pressure are evaluated, with classifications tailored to fan size (120mm or 135-140mm). Higher categories like Titanium and Diamond represent fans with exceptional cooling efficiency and static pressure capabilities.
- **Certification Tiers**: Fans are ranked using a six-tier system (Bronze to Diamond) based on their performance in airflow and static pressure tests.

6.4 Electromagnetic Emissions

- Conducted Emissions: Electrical noise traveling through power lines, affecting devices on the same electrical network.
    - Common Mode (CM) Emissions: Noise flowing in the same direction through conductors (often due to parasitic coupling).
    - Differential Mode (DM) Emissions: Noise flowing in opposite directions, caused by asymmetries in switching circuits.

6.4.1 EMC Testing Equipment & Process

- Spectrum Analyzer / EMI Receiver → Captures and analyzes interference across 150 kHz - 30 MHz frequency range.
- Quasi-Peak, Peak & Average Detectors → Evaluate signal impact on real-world devices.
- Line Impedance Stabilization Network (LISN) → Standardizes power line impedance for conducted emissions testing.

6.4.2 EMI Compliance Requirements

EN55032 / CISPR 32 Frequency Range (MHz)	Quasi-Peak Limit (dBµV)	Average Limit (dBµV)
0,15 – 0,50	66 to 56	56 to 46
0,50 - 5	56	—
5 - 30	60	46

6.5 Product Identification

Detailed Part Analysis: A meticulous part analysis is conducted on all submitted samples to document the components used and ensure compliance with declared specifications. If future production batches involve part changes, Cybenetics compares them to the original test data to detect deviations. Significant changes may necessitate re-certification to maintain validity.

7. Certification Decision

Cybenetics bases its certification decisions on the outcomes of the testing process:

7.1 Approval

A DUT meeting all evaluation criteria is certified as compliant and awarded corresponding certification badges (ETA, LAMBDA, PHI) representing their performance levels.

7.2 Denial:

If a DUT fails to meet the required benchmarks, certification is denied. Manufacturers receive a detailed report outlining reasons for failure.

8. Limitations and Disclaimer

Certifications rely solely on the samples submitted for testing, assuming that the quality of all production units matches the evaluated samples.

The detailed part analysis documents all components and safeguards against deviations in production quality. If significant changes in materials, parts, or production methods occur, manufacturers must notify Cybenetics and submit updated samples for evaluation.

9. Cost Implications

The testing process is optimized to minimize costs by evaluating one representative sample initially, with a second sample tested only if required.

Re-testing additional samples is offered when failures or anomalies occur, ensuring fairness and reliability in certification processes.

Cybenetics maintains a transparent fee structure, ensuring accessibility without hidden charges.

10. Certification Validity

Certifications remain valid unless significant changes are made to the production process. Through its open-access database, Cybenetics tracks testing results and part analyses, enabling stakeholders to monitor compliance over time. If deviations are reported, manufacturers may be required to undergo re-certification.

11. Voluntary Nature

Participation in this scheme is voluntary. It is designed to provide added product value without imposing undue financial burdens, which will ultimately be passed to end-users.

12. Transparency and Recordkeeping

Transparency is central to Cybenetics' certification process:

Comprehensive Documentation: Records of all sampling, testing, and evaluations are meticulously maintained for audit purposes.

Detailed Reporting: Manufacturers receive complete testing results reports, including observations, performance metrics, and compliance levels.

Public Database: All certified products are listed in an open-access database, allowing consumers, laboratories, and other stakeholders to verify claims and track consistency.

13. Validation Procedure

The validation procedure ensures consistent quality, accuracy, and adherence to the performance metrics outlined by Cybenetics. This is achieved through a structured process involving multiple checks and cross-referencing mechanisms:

13.1 Pre-Evaluation Phase

13.1.1 Manufacturer's Declaration

All submitted samples must include a signed declaration confirming that the units are identical to those sold in the market.

13.1.2 Documentation Review

The technical specifications and declared metrics of the submitted units are reviewed for consistency with manufacturer claims.

13.2 Initial Validation

13.2.1 Benchmark Comparison

Test results are compared against established benchmarks for the respective certification (e.g., ETA, LAMBDA, PHI). This step ensures that the sample performance aligns with expectations for the intended certification tier.

13.2.2 Performance Data Verification

Data from submitted samples is cross-checked against historical testing data and industry standards for deviations or irregularities.

13.3 Ongoing Monitoring and Periodic Re-Evaluations

13.3.1 Randomized Re-Testing

Certified products may be randomly selected for periodic re-testing to validate that their production quality remains consistent over time.

13.3.2 Database Consistency Checks

Results from re-tested samples are matched with initial data stored in Cybenetics' open-access database to identify discrepancies.

13.3.3 End-User Feedback Analysis

Reports from end-users, warranty claims, or third-party testing labs are analyzed to detect potential quality issues.

13.4 Part Change Validation

If manufacturers alter materials, parts, or production methods, updated samples must be submitted for a secondary evaluation.

Comparison testing ensures that any changes do not negatively impact performance, compliance, or certification validity. Products failing to meet original certification standards may require recertification.

13.5 Qualification Criteria for Auditors

Auditors must have formal qualifications in relevant fields such as engineering, quality control, or product testing (e.g., degrees in Electrical or Mechanical Engineering or equivalent certifications).

- **Experience:** Auditors should possess at least six months of experience in performance evaluation or certification processes for electronic components or related fields.
- **Impartiality**: Auditors must have no financial or personal ties to the manufacturers being evaluated to avoid conflicts of interest.
- **Technical Proficiency**: Auditors should be proficient in the specific testing methodologies employed by Cybenetics, including ETA, LAMBDA, EMI, and PHI protocols.
- **Attention to Detail**: Auditors must demonstrate a proven track record of meticulous work, ensuring thorough and precise evaluations.
- **Ethics**: Auditors are required to adhere to strict ethical guidelines, safeguarding the integrity and transparency of the certification process.

13.6 Corrective Action Procedure

If discrepancies or substandard performance are identified during validation, Cybenetics will notify the manufacturer and request corrective actions.

Affected certifications are temporarily suspended until new testing confirms compliance. A detailed report is issued to the manufacturer outlining necessary steps for reinstatement.

14. ETA Certification Tiers

The ETA certification measures the energy efficiency of Power Supply Units (PSUs). It evaluates how effectively a PSU converts power from the wall outlet into usable energy while minimizing waste. This includes metrics such as overall efficiency, power factor (PF), vampire power consumption, and 5VSB rail efficiency. Here's a breakdown of the tiers: Cybenetics awards ETA at two input voltages, and the thresholds differ between them. Each criterion below is therefore given twice: first the value that applies at 115 V input, then the value that applies at 230 V input.

14.1 Diamond

- Overall Efficiency: At least 93% at 115 V input, and at least 95% at 230 V input.
- Power Factor (PF): ≥ 0,985 at 115 V input, and ≥ 0,950 at 230 V input.
- 5VSB Rail Efficiency: Over 79% at 115 V input, and over 78% at 230 V input.
- Vampire Power: Less than 0,10 W at 115 V input, and less than 0,12 W at 230 V input.
- Significance: Diamond-certified PSUs are the pinnacle of energy efficiency, ideal for users who demand maximum energy savings without compromising performance.

14.2 Titanium

- Overall Efficiency: Between 91% and <93% at 115 V input, and between 93% and <95% at 230 V input.
- Power Factor (PF): ≥ 0,980 at 115 V input, and ≥ 0,940 at 230 V input.
- 5VSB Rail Efficiency: Over 77% at 115 V input, and over 76% at 230 V input.
- Vampire Power: Less than 0,13 W at 115 V input, and less than 0,15 W at 230 V input.
- Significance: Titanium PSUs balance exceptional efficiency with slightly relaxed criteria compared to Diamond, offering a high level of performance.

14.3 Platinum

- Overall Efficiency: Between 89% and <91% at 115 V input, and between 91% and <93% at 230 V input.
- Power Factor (PF): ≥ 0,975 at 115 V input, and ≥ 0,935 at 230 V input.
- 5VSB Rail Efficiency: Over 76% at 115 V input, and over 75% at 230 V input.
- Vampire Power: Less than 0,16 W at 115 V input, and less than 0,18 W at 230 V input.
- Significance: Platinum-certified PSUs are efficient and suitable for most demanding applications, such as workstations and gaming setups.

14.4 Gold

- Overall Efficiency: Between 87% and <89% at 115 V input, and between 89% and <91% at 230 V input.

- Power Factor (PF): ≥ 0,970 at 115 V input, and ≥ 0,930 at 230 V input.
- 5VSB Rail Efficiency: Over 75% at 115 V input, and over 74% at 230 V input.
- Vampire Power: Less than 0,19 W at 115 V input, and less than 0,20 W at 230 V input.
- Significance: Gold PSUs strike a balance between energy efficiency and cost-effectiveness, ideal for general use in mid-range systems.

14.5 Silver

- Overall Efficiency: Between 85% and <87% at 115 V input, and between 87% and <89% at 230 V input.
- Power Factor (PF): ≥ 0,960 at 115 V input, and ≥ 0,920 at 230 V input.
- 5VSB Rail Efficiency: Over 73% at 115 V input, and over 72% at 230 V input.
- Vampire Power: Less than 0,22 W at 115 V input, and less than 0,23 W at 230 V input.
- Significance: Silver-certified PSUs offer solid efficiency for entry-level or budget systems without sacrificing quality.

14.6 Bronze

- Overall Efficiency: Between 82% and <85% at 115 V input, and between 84% and <87% at 230 V input.
- Power Factor (PF): ≥ 0,950 at 115 V input, and ≥ 0,910 at 230 V input.
- 5VSB Rail Efficiency: Over 71% at 115 V input, and over 70% at 230 V input.
- Vampire Power: Less than 0,25 W at 115 V input, and less than 0,25 W at 230 V input.
- Significance: Bronze PSUs represent the basic level of energy efficiency, suitable for low-cost systems where efficiency is not the primary concern.

15. LAMBDA Certification Tiers

The LAMBDA certification evaluates the acoustic performance of PSUs, focusing on noise levels under operating conditions. It categorizes products based on their decibel (dB) output using advanced logarithmic scaling techniques for precise measurement.

15.1 A++

- Noise Level: Below 15 dB(A).
- Significance: Virtually silent operation, ideal for noise-sensitive environments such as professional studios or quiet workspaces.

15.2 A+

- Noise Level: Between 15 dB(A) and <20 dB(A).
- Significance: Extremely quiet operation suitable for systems prioritizing minimal noise, including high-performance gaming PCs or productivity setups.

15.3 A

- Noise Level: Between 20 dB(A) and <25 dB(A).
- Significance: Quiet systems for general use, balancing performance and acoustic comfort.

15.4 A-

- Noise Level: Between 25 dB(A) and <30 dB(A).

- Significance: Moderately quiet operation, acceptable for most standard applications where noise is less of a concern.

15.5 Standard++

- Noise Level: Between 30 dB(A) and <35 dB(A).
- Significance: Slightly noisier systems, suitable for environments where absolute silence is not required.

15.6 Standard+:

- Noise Level: Between 35 dB(A) and <40 dB(A).
- Significance: Noise levels that are tolerable in less noise-sensitive spaces.

15.7 Standard

- Noise Level: Between 40 dB(A) and <45 dB(A).
- Significance: The loudest certified tier, suitable for budget systems where noise reduction is not a primary consideration.

16. PHI Certification Tiers

The PHI certification, also known as the Phi Fan Performance Standard (PFPS), evaluates fan cooling efficiency based on airflow and static pressure at the applicable normalized-noise target in PFPS Rev 1.9. Fans are categorized by size: 120mm or 135-140mm. Maximum noise ≥25 dBA: use the measured 25 dBA point and unchanged 25 dBA ladders. 20≤maximum noise<25 dBA: use the fan's own measured 20 dBA point and the 20 dBA ladders. Maximum noise<20 dBA: no performance level. Missing measured points do not authorize extrapolation. Each band includes its lower limit and excludes the next tier's lower limit; Diamond is open-ended.

16.1 120mm Fans

16.1.1 Diamond

- Airflow: ≥ 55 CFM.
- Static Pressure: ≥ 2 mmAq.
- Significance: Exceptional cooling efficiency for high-performance systems.

16.1.2 Titanium

- Airflow: Between 50–55 CFM.
- Static Pressure: Between 1,75–2 mmAq.
- Significance: High cooling capability suitable for demanding tasks.
- 3. Platinum:
- Airflow: Between 46–50 CFM.
- Static Pressure: Between 1.5–1.75 mmAq.
- Significance: Reliable cooling performance for mainstream applications.

16.1.3 Gold

- Airflow: Between 42–46 CFM.
- Static Pressure: Between 1.25–1,5 mmAq.

- Significance: Balanced cooling efficiency ideal for general-purpose systems.

16.1.4 Silver

- Airflow: Between 38–42 CFM.
- Static Pressure: Between 1–1,25 mmAq.
- Significance: Adequate cooling for low-cost configurations.

16.1.5 Bronze:

- Airflow: Between 34–38 CFM.
- Static Pressure: Between 0,8–1 mmAq.
- Significance: Basic cooling performance.

16.2 135-140mm Fans

16.2.1 Diamond

- Airflow: ≥ 70 CFM.
- Static Pressure: ≥ 1,7 mmAq.
- Significance: Premium cooling performance for larger systems.

16.2.2 Titanium

- Airflow: Between 65–70 CFM.
- Static Pressure: Between 1,5–1,7 mmAq.
- Significance: Effective cooling for high-demand tasks.
- 3. Platinum:
- Airflow: Between 60–65 CFM.
- Static Pressure: Between 1,3–1,5 mmAq.
- Significance: Reliable cooling suitable for everyday usage.

16.2.3 Gold

- Airflow: Between 55–60 CFM.
- Static Pressure: Between 1,1–1,3 mmAq.
- Significance: Balanced cooling for standard applications.

16.2.4 Silver

- Airflow: Between 50–55 CFM.
- Static Pressure: Between 0,9–1,1 mmAq.
- Significance: Good cooling for budget-friendly configurations.

16.2.5 Bronze

- Airflow: Between 45–50 CFM.
- Static Pressure: Between 0,7–0,9 mmAq.
- Significance: Typical cooling performance for entry-level systems.

  20 dBA extension — for fans that cannot reach 25 dBA

  Published PFPS Rev 1.9, p.10 (verbatim): What about fans that cannot reach 25 dBA, even at full speed? These fans are designed for very low noise output, so they cannot be compared

with other fans at 25 dBA. Rating them at full speed would not be a fair comparison either, since their noise output would then differ from that of the fans they are compared with. For these fans we use the next normalized noise output level of our test routine, 20 dBA. A fan whose maximum noise output is below 25 dBA but reaches 20 dBA is rated with the airflow and static pressure measured at 20 dBA normalized noise output, against the 20 dBA requirements listed below. A fan that cannot reach 20 dBA, even at full speed, does not receive a performance level.

The existing 25 dBA criteria above remain unchanged. The following 20 dBA criteria apply only to eligible quiet fans. The evaluation report and certificate state “rated at 20 dB(A)” next to each rating.

20 dBA — 120 mm	Airflow, CFM	Static pressure, mmAq
Bronze	≥27.8 CFM & <31.1 CFM	≥0.56 mmAq & <0.70 mmAq
Silver	≥31.1 CFM & <34.4 CFM	≥0.70 mmAq & <0.88 mmAq
Gold	≥34.4 CFM & <37.7 CFM	≥0.88 mmAq & <1.05 mmAq
Platinum	≥37.7 CFM & <40.9 CFM	≥1.05 mmAq & <1.22 mmAq
Titanium	≥40.9 CFM & <45.0 CFM	≥1.22 mmAq & <1.40 mmAq
Diamond	≥45.0 CFM	≥1.40 mmAq
20 dBA — 135/140 mm	**Airflow, CFM**	**Static pressure, mmAq**
Bronze	≥37.6 CFM & <41.8 CFM	≥0.51 mmAq & <0.65 mmAq
Silver	≥41.8 CFM & <46.0 CFM	≥0.65 mmAq & <0.79 mmAq
Gold	≥46.0 CFM & <50.2 CFM	≥0.79 mmAq & <0.94 mmAq
Platinum	≥50.2 CFM & <54.3 CFM	≥0.94 mmAq & <1.08 mmAq
Titanium	≥54.3 CFM & <58.5 CFM	≥1.08 mmAq & <1.23 mmAq
Diamond	≥58.5 CFM	≥1.23 mmAq

17. Bibliographic References

[1] CYBENETICS, The Complete Cybenetics Test Protocol, Including Energy Efficiency, Output Noise, And Overall Performance Calculation of AC-DC Power Supplies, Revision 4.0

[2] CYBENETICS, Conducted Emissions Testing Procedure Revision 1.5

[3] CYBENETICS, The Phi Fan Performance Standard (PFPS) Revision 1.9

[4] CYBENETICS, A Simplified Way To Predict The Cybenetics Efficiency Ratings Revision 1.2

[5] IEEE Std 1515-2000, IEEE Recommended Practice for Electronic Power Subsystems: Parameter Definitions, Test Conditions, and Test Methods.

[6] IEC 62301:2011, Household Electrical Appliances – Measurement of Standby Power.

[7] ISO7779: 2018 - Acoustics - Measurement of airborne noise emitted by information technology and telecommunications equipment.

[8] ISO 11201:2010 (E) - Acoustics - Noise emitted by machinery and equipment – Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections.

[9] ECMA-74 (17th Edition) – Measurement of Airborne Noise emitted by Information Technology and Telecommunications Equipment - ECMA International. December 2019.

[10] IEC / EN 62368-1 – Audio/video, information and communication technology equipment – Safety requirements

[11] IEC / CENELEC 2018 – Electrical safety requirements for PSU

[12] IEC 61000-3-2:2019 / EN 61000-3-2:2019 — Electromagnetic compatibility (EMC)

[13] EN55032 / CISPR 32– EMC testing

[14] Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits (Low Voltage Directive – LVD)

[15] Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to electromagnetic compatibility (EMC Directive)

Modification Table

Version	Changes Description	Date
05	Extension of §§6.3 and 16: measured 20 dBA eligibility and ladders for quiet fans; 25 dBA criteria unchanged. PFPS reference [3] updated to Rev 1.9. Owner decision 03-10-2026; issue subject to approval.	02-11-2026
01	Initial Issue	10-5-2025
02	Added bibliographic references in section 17, as of CYS-CYSAB Pre-assessment 3-10-2025, finding 2/8	10-10-2025
03	Added bibliographic references, reworded certain passages for clarity in sections 1, 2, 3, 4, 6.4, 6.5, and 17 as of CYS-CYSAB assessment 30-01-2026, finding 3/3	10-02-2026
04	Section 14 now states the ETA tier criteria for both input voltages. It previously reproduced only the 115 V thresholds,	22-08-2026

	with no voltage qualifier, so the scheme stated one voltage's criteria as if they were the whole scheme. Bibliographic references [1], [2] and [3] updated to the published revisions. Removed the field in the page-1 footer that printed the internal file path.	

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