



Republic of the Philippines
Department of Energy
(Kagawaran ng Enerhiya)



IMPLEMENTING GUIDELINES OF THE PHILIPPINE ENERGY LABELING PROGRAM FOR TELEVISION SETS 2024, 1ST EDITION

Pursuant to Section 9 of Department Circular No. 2020-06-0015, as amended, entitled "Prescribing the Guidelines of the Philippine Energy Labeling Program (PELP) for Compliance of Importers, Manufacturers, Distributors and Dealers of Electrical Appliances and Other Energy-Consuming Products (ECP)", the Implementing Guidelines for Television Sets, including the Particular Product Requirements (PPR) and Code of Practice (COPE) are hereby issued for the information and guidance of all those concerned and for compliance by all manufacturers, importers, distributors, dealers, retailers, and other key stakeholders.

1. Particular Product Requirement for Television Sets

The PPR provides the requirements for mandatory energy labeling of television sets. It specifies the Minimum Energy Performance (MEP), Energy Efficiency Performance Rating (EEPR) and other relevant information applicable for Television Sets.

1.1 Scope

This PPR covers all television sets.

1.2 Definition of Terms

For the purpose of this PPR, the following definitions, and those in the normative references under Section 1.3 and its future amendments, shall apply:

Applicants - refers to manufacturers, importers, distributors, or dealers.

Base Model / Type - a product model whose main component and other design components are distinct as to voltage rating, power input, frequency, light output, etc.

Decision Rule - rule that describes how measurement uncertainty is accounted for when stating conformity with specified requirements.

Emergency Warning Broadcast System (EWBS) – a system that shall be activated to alert and guide the public of an impending or ongoing emergency situation by delivering warning information through an audible sound.

Energy Consumption – refers to the energy consumed in an hour of operation, which is equivalent to the power consumption (in kW) multiplied by one (1) hour.

Energy Efficiency Factor (EEF) – refers to the ratio of the viewing screen area or the luminous area in square meters (m²) to the total energy consumption in kWh.

Energy Efficiency Performance Rating (EEPR) – refers to the product's star rating, which is based on the EEF and is indicated on the energy label.

Energy Efficiency Rating – as indicated in the energy label pertains to the rated EEF of the Television Set.

Generic Models - refer to a range of models that are comparable to the base model in terms of their major physical characteristics, construction, system design and other performance characteristics.

Luminous Area – refers to the measured viewing screen area determined by the height multiplied by the width of the luminous area with white level video signal. The unit is expressed in square meters (m²).

Standby Power – refers to the electrical power consumed by the equipment during its standby mode-passive.

Television Set – refers to an appliance for the display and possible reception of television broadcast and similar services for terrestrial, cable, satellite and broadband network transmission of analogue and/or digital signals.

Tuner – refers to the input terminals to which a radio receiver can be connected.

Viewing Screen Size – refers to the nominal diagonal straight distance from one corner to the opposite corner of the viewing screen.

1.3 Normative References

The Television Sets covered under this PPR shall be tested, as applicable, according to, but not limited to the following standards and their future amendments:

PNS IEC 62087 – Methods of Measurement for the power consumption of audio, video and related equipment.

PNS 378 - Television Receivers and Video Monitors – Viewing Screen Dimensions – Methods of Measurement.

PNS IEC 62301 - Standby Power Measurement.

Considering the regular updating of the standards, the latest edition of the PNS shall be used as reference. It is understood that future amendments to the PNS indicated in this PPR shall be applied after its effectivity. A transition period coinciding with the transition period indicated in the PNS shall be provided to give ample time for all stakeholders to adjust and conform to the new requirements, if any.

1.4 Code of Practice on Energy Labeling of Products

Pursuant to Section 15 of the Energy Efficiency and Conservation (EEC) Act, the Code of Practice on Energy Labeling of Products (COPE) provides for the calculation methods of the following:

1.4.1 The Television Sets Energy Efficiency Performance Rating (EPR) or the star rating indicated in the DOE Energy Label is based on the **Energy Efficiency Factor (EEF)**, which is calculated as follows:

$$EEF = \frac{\text{Viewing Screen Area or Luminous Area (m}^2\text{)}}{\text{Energy Consumption (kWh)}}$$

The EEPR indicated in the DOE Energy Label shall correspond to the EEF value shown in the product test report during product registration. The EEPR shall be adjusted accordingly (as needed) once the product has undergone verification testing.

- 1.4.2** For the estimation of **monthly energy kilowatt-hour (kWh) consumption** (based on a specified hour of daily usage), as shown in the DOE Energy Label, the calculation is as follows:

$$\text{Monthly kWh Consumption} = [(\text{Power Consumption} \times \text{Daily Operating Hours}) + (\text{Standby Power} \times \text{Standby Hours})] \times 30 \text{ days}$$

Where:

Power Consumption is the determined electrical power required by the equipment to operate normally and is expressed in kilowatts (kW)

Standby Power is the determined electrical power consumed by the equipment during its standby mode – passive and is expressed in kW.

Daily Operating Hour is the assumed length of time that the equipment is operated in a day and is expressed in hours. With regards to the DOE Energy Label, this parameter is assumed to be nine (9) hours.

Standby Hour is the assumed length of time that the equipment is on standby mode and is expressed in hours. It is equivalent to the [Number of hours in a day – Daily Operating Hours].

- 1.4.3** For the estimation of **monthly electricity cost**, the calculation is as follows:

$$\text{Monthly Electricity Cost} = \text{Monthly kWh Consumption} \times \text{Electricity Price}$$

Where:

Electricity Price is the prevailing peso per kWh, as indicated in the electricity bill issued by an electric power distribution company.

- 1.4.4** For the estimation of **monthly Greenhouse Gas (GHG) emission** due to monthly electricity consumption, the calculation is as follows:

$$\text{Monthly GHG emission} = \text{Monthly kWh Consumption} \times \text{Emission Factor}$$

Where:

Emission Factor is the Simple Operating Margin (OM) Emission Factor derived using the power grid statistics and is available in the DOE Website.

Note: The unit of the calculated GHG emission shall be in kg CO₂ per kWh.

1.5 Minimum Energy Performance

- 1.5.1** The EEF of Television Sets shall be as follows:

Energy Efficiency Factor (luminous area (m ²) / kWh)		
Screen Size	≤ 60 inches	> 60 inches
Minimum EEF	4.5	3.0

Notes:

1. Calculated EEF shall be rounded-off to the nearest 0.1.
2. The rules of rounding-off shall be followed.
3. Verdict shall be based on the rounded-off value.

1.5.2 The Standby Power Rating of Television Sets shall be as follows:

Standby Power Rating		
Screen Size	≤ 60 inches	> 60 inches
Maximum Standby Power	0.7	1.0

Note:

The MEP shall be subjected for review and upgrading every three (3) years or earlier as necessary.

1.5.3 Television sets covered under this IG, manufactured and assembled in the country of origin other than the Philippines, must also pass the MEP set by the country of origin, as may be applicable.

1.6 Energy Efficiency Performance Rating (EEPR) for Television Sets

- 1.6.1 Television sets shall be classified based on the rated EEF of the product.
- 1.6.2 The classification shall be represented by stars with one star indicating the lowest range of EEF while five stars shall represent the highest range of EEF.
- 1.6.3 The rated EEF of Television Sets shall be classified in Table 1.

Table 1. Energy Efficiency Performance Rating (EEPR) for Television Sets

Energy Efficiency Factor (EEF)	
EEPR	Range
One Star	4.5 to 6.6
Two Star	6.7 to 8.8
Three Star	8.9 to 11
Four Star	11.1 to 13.2
Five Star	13.3 and above

1.7 Tolerances

The following tolerances shall apply to all covered television sets:

1.7.1 The measured standby power shall not be more than 110% of the rated standby power of the test sample.

Note:

1. Measured standby power shall be rounded-off to the nearest 0.1 watt. The rules of rounding-off shall be followed.
2. The measured standby power shall be rounded-off first before determining the tolerance.
3. Verdict shall be based on the rounded-off value.

1.7.2 The measured EEF shall not be less than 90% of the rated EEF of the test sample.

Note:

1. Measured EEF shall be rounded-off to the nearest 0.1 m²/kWh. The rules of rounding-off shall be followed.

2. Verdict shall be based on the rounded-off value.
3. The rated EEF shall be mathematically consistent.

1.7.3 The measured energy consumption shall not be more than 110% of the rated energy consumption of the test sample.

Note:

1. Measured energy consumption shall be rounded-off to the nearest 0.001kWh. The rules of rounding-off shall be followed.
2. Decision shall be based on the rounded-off value.

1.7.4 The measured viewing screen size shall not be less than 99% of the rated viewing screen size of the test sample.

Note: Decision shall be made after rounding-off the percentage value to whole number.

2. Product Verification Testing

All general technical provisions in the Guidelines shall apply, including the following:

2.1 Sampling Method for Verification Testing

A unit of base model or its generic model shall be randomly taken from the sampling location.

Note: If a model (either base or generic) has been verified, the result of the test shall apply to all the base or generic models declared for that model.

2.2 Specific Guidelines on the Conduct of Verification Testing

2.2.1 Test methods to verify conformity to the claimed information in the label shall be as specified in Section 1.3.

2.2.2 Test method for measuring viewing screen size shall be in accordance with PNS 378. For curved displays, which are not yet covered by the current version of PNS 378, measurement shall be done along the arc of the display.

2.2.3 The luminous area shall be determined by multiplying the measured width and the measured height using a white level video signal through radio frequency (RF) or baseband input. Measurements are in millimeters (mm). However, the final result of the luminous area should be in square meters (m²) rounded-off to the nearest 0.001 m².

2.2.4 Samples shall be tested at a standard test voltage of 230V \sim \pm 1%, 60Hz \pm 1%.

2.2.5 Television Sets must be reset to Default Setting. The picture level setting shall be as originally set as that of the manufacturer/importer.

2.2.6 In case a setting mode must be chosen on initial activation, the picture setting is referred to as "standard mode" or equivalent. In the case that no "standard mode" or equivalent exists, the first mode listed in the on-screen menu shall be selected.

2.2.7 Power consumption test methods shall be in accordance with On-mode power consumption using dynamic broadcast according to the normative reference. The measurements shall be performed after the television sets has achieved a stable condition with respect to power consumption. The measurement shall be the average power consumed over ten consecutive minutes.

2.2.8 Where present, the volume control of the test sample shall be adjusted to 10% level of its maximum value based on its screen volume display.

2.2.9 The ambient temperature in all tests shall be maintained at 23°C ± 5°C.

2.2.10 Measurement of standby power shall be as specified in PNS IEC 62301.

2.2.11 The verification testing shall be conducted by the DOE-Lighting and Appliance Testing Division or a DOE-Recognized Testing Laboratory.

2.2.12 Conformance shall be evaluated according to the cases shown in Table 2:

Table 2. Conformance Requirements

CASE CONDITION	1 st SAMPLING	2 nd SAMPLING	3 rd SAMPLING	CONFORMANCE
Case 1	Passed	Not Applicable	Not Applicable	Passed
Case 2	Failed	Passed	Passed	Passed
Case 3	Failed	Passed	Failed	Failed
Case 4	Failed	Failed	Not Applicable	Failed

Note:

1. Applies both for tolerances and MEPP.
2. Replacement of defective units shall be allowed up to three (3) times only. If the unit is still defective after the 3rd replacement, the testing shall be considered as failed.

Table 3. Conformance Evaluation Matrix

Case Condition	Energy Efficiency	Power Consumption	Viewing Screen Dimension	Standby Power	Final Verdict	Remarks FCA
Case 1	P	P	P	P	P	
Case 2	P	P	P	F	F	
Case 3	P	P	F	P	F	FCA
Case 4	P	F	P	P	F	FCA
Case 5	F	P	P	P	F	FCA

Legend: F – Fail, P- Pass, FCA- For Corrective Action on claims according to Guidelines

Note:

1. The table above will depend on the Applicant's declaration.
2. Applies both for tolerances and MEPP.
3. Replacement of defective units (that cannot be properly tested) shall be allowed up to three (3) times only. If the unit is still defective after the 3rd replacement, the testing shall be considered as failed.

2.2.13 In cases where a measured value falls within the guard band, as defined in this IG, the DOE- RTL that conducted the test shall be responsible for issuing the final verdict. The final verdict shall be in accordance with Annex A: Guidelines on the Decision Rule of this IG to account for measurement uncertainty.

2.3 Correction of Performance Ratings

2.3.1 Applicant has the option to change the claimed ratings to comply with the requirements of the IG based on the result of the test.

2.3.2 New claims shall conform to the tolerances specified in Section 1.7.

2.4 Inspection of Generic Models

2.4.1 A model will not be considered generic if there is a difference in nameplate rating, type of display, power supply, viewing screen size dimension or any of the components related to the performance of the television set.

2.4.2 In case of doubt, DOE-EPRED shall require the inspected units to be subjected to performance testing

2.5 Presentation of Results

2.5.1 The rules of rounding off shall always be followed.

2.5.2 Verdict shall be based on the rounded off value.

2.5.3 Both rated and measured values shall be mathematically consistent.

3. Specifications and Dimensions of the Energy Label

3.1 Energy Label Design

3.1.1 The dimension shall not be less than 110 mm (width) x 150 mm (height). The product on sale shall have the energy label affixed at the front of the units or wherever it is more visible.



Swatches



3.2 Presentation of Energy Label



4. Product Registration

PELP-Registered Companies may register their Television Set models through the PELP Online Product Registration, which includes the information indicated in the Product Registration Form – Television Sets, among others. These procedures also apply to both manufactured and imported institutional products.

4.1 Product Registration Form

The Product Registration Form shall indicate the product's details, details of the testing facility used and the product's performance specifications, in accordance with the normative references stated in Section 1.3. The Product Registration Form shall contain, at the minimum, the following information:

Product Registration Form – Television Sets

Product Test Report Details	
Name of Testing Laboratory	
Country of Testing Laboratory	
ISO 17025 Accreditation Body	
Accreditation Membership/Affiliation	
Laboratory Report Issuance Date	
Accreditation Certificate Expiration Date	
Product Details	Television Sets
Product Category	Information, Communication and Technology Equipment
Product	Television Sets
Type of Display	<input type="checkbox"/> Liquid Crystal Display (LCD) <input type="checkbox"/> Light-Emitting Diode (LED)-backlit LCD <input type="checkbox"/> Quantum-LED (QLED)-backlit LCD <input type="checkbox"/> Organic Light-Emitting Diode (OLED)

Model Type	<input type="checkbox"/> Base <input type="checkbox"/> Generic
Brand Name	
Model Number/Code	
Product Name	
Year Model	
Country of Origin	
Original Equipment Manufacturer	
Product Performance Specification	
Viewing Screen Size (inches)	
Viewing Screen Size (mm)	
Power Consumption (kW)	
Luminous Area (m ²)	
Energy Consumption (kWh)	
Energy Efficiency Factor (EEF)	
Stand-by Power Rating (W)	
Voltage (V)	
Frequency (Hz)	
Display Resolution	
Display Configuration	<input type="checkbox"/> Flat <input type="checkbox"/> Curved
Type of Panel	<input type="checkbox"/> Twisted Nematic (TN) <input type="checkbox"/> Vertical Alignment (VA) <input type="checkbox"/> In-Plane Switching (IPS) <input type="checkbox"/> Others: <i>(Please specify)</i>
Other Technical Parameters	

Notes:

- a. No. of samples tested for product registration purposes will be up to the Applicant.
- b. The validity of the test report for the purpose of initial registration shall be one (1) year from the date of issuance.

5. Effectivity. This IG shall take effect fifteen (15) days following its publication in at least two (2) newspapers of general circulation. Copies of this IG shall be filed with the University of the Philippines Law Center – Office of the National Administrative Register.

Issued at Energy Center, Bonifacio Global City, Taguig City.


PATRICK T. AQUINO, CESO III
 Director, Energy Utilization Management Bureau



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ANNEX A GUIDELINES ON DECISION RULE

This document will provide the decision rule that will be used to account for measurement uncertainty, based on ILAC-G8:09/2019.

Definition of Terms:

Acceptance Interval - interval of permissible measured quantity values.

Acceptance Limit (AL) - specified upper or lower bound of permissible measured quantity values.

Guard Band (w) – interval between a tolerance limit (TL) and a corresponding acceptance limit (AL) where length $w = |TL - AL|$.

Measured Quantity Value - quantity value representing a measured result.

Rejection Interval - interval of non-permissible measured quantity values.

Specific Risk - is the probability that an accepted item is non-conforming, or that a rejected item does conform. This risk is based on measurements of a single item.

Tolerance Interval / Specification Interval - interval of permissible values of property.

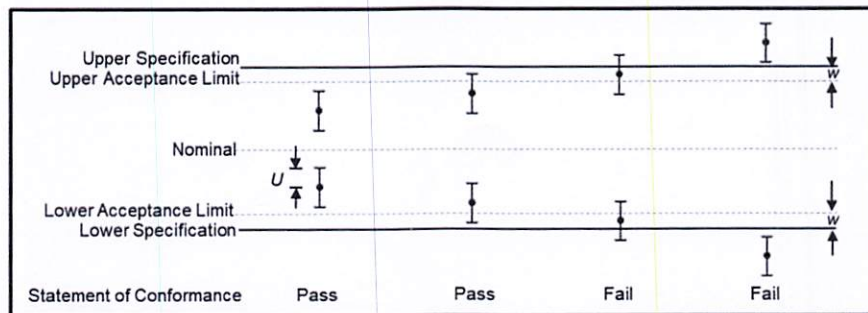
Tolerance Limit (TL) / Specification Limit - specified upper or lower bound of permissible values of a property.

Decision Rule

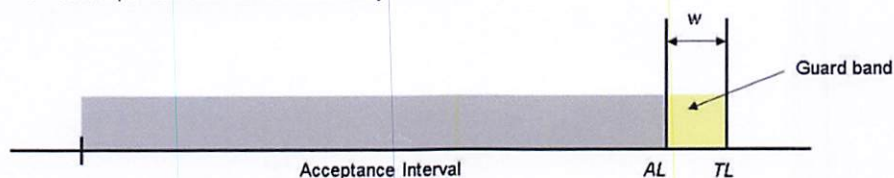
A Binary decision rule is when the result is limited to two choices (pass or fail). As explained below, the declaration of conformity is binary acceptance.

Binary Acceptance based on Guard Band

The decisions are based on guard-banded acceptance limits. The acceptance limits, $AL = TL - w$, where U is the expanded measurement uncertainty or equivalent to w . The estimate of the measurand is assumed to have a normal probability distribution and specific risk is used for the risk calculation. In this case, the risk of accepted items being outside the tolerance limit is less than or equal to 2.5%.



$U = 95\%$ expanded measurement uncertainty



Statements of Conformity are reported as follows:

- Pass – acceptance based on guard band; the measurement result being below the acceptance limit, $AL = TL - w$.
- Fail – rejection based on guard band; if the measurement result is above the acceptance limit, $AL = TL - w$