



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



## IMPLEMENTING GUIDELINES OF THE PHILIPPINE ENERGY LABELING PROGRAM FOR REFRIGERATING APPLIANCES 2024, 1<sup>st</sup> 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 (IG) for Refrigerating Appliances, 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 (PPR) for Refrigerating Appliances

The PPR provides the requirements for mandatory energy labeling of refrigerating appliances. It specifies the Minimum Energy Performance (MEP), Energy Efficiency Performance Rating (EEPR) and other relevant information applicable for Refrigerators and Refrigerator-Freezers.

#### 1.1 Scope

This PPR covers refrigerating appliances with a minimum volume capacity of 113 liters for domestic and similar use.

The following are the categories:

##### 1.1.1 Refrigerator

- a. Manual Defrost
- b. Frost Free

##### 1.1.2 Refrigerator-Freezer

- a. Manual Defrost
- b. Frost Free

*Note: This covers vapor compression systems, both for inverter and non-inverter technology, built-in type refrigerating appliances and cellars. Freezers are not covered in the scope.*

#### 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.

**Energy Efficiency Factor (EEF)** – refers to the total adjusted volume (in liters) divided by the energy consumption (in kilowatt-hour per 24 hours). Also stated under the COPE as the measurement of efficiency.

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

**Energy Efficiency Rating** – as indicated in the energy label, pertains to the rated EEF of the refrigerating appliance.

**Frost-free Refrigerating Appliance** – refers to a refrigerating appliance in which all compartments are automatically defrosted with automatic disposal of the defrosted water and at least one compartment is cooled by a frost-free system.

**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 features.

**Refrigerating Appliance** – refers to an insulated cabinet with one or more compartments that are controlled at specific temperatures, are of suitable sizes, and cooled by natural convection or a forced convection system whereby the cooling is obtained by one or more energy-consuming means.

**Refrigerator** – refers to a refrigerating appliance intended for the storage of foodstuff with at least one fresh food compartment.

**Refrigerator-Freezer** – refers to a refrigerating appliance having at least one fresh food compartment and at least one freezer compartment, where freezer temperature should not be higher than  $-18^{\circ}\text{C}$ .

**Type** – pertains to the type (model of defrost) of defrosting of the refrigerators: manual defrost or frost-free.

### 1.3 Normative References

The Refrigerating Appliances covered under this PPR shall be tested, as applicable, according to, but not limited to the following standards and their future amendments.

**PNS IEC 62552-1** Household refrigerating appliances – Characteristics and test methods – Part 1: General requirements.

**PNS IEC 62552-2** Household refrigerating appliances – Characteristics and test methods – Part 2: Performance requirements.

**PNS IEC 62552-3** Household refrigerating appliances – Characteristics and test methods – Part 3: Energy Consumption and Volume.

Considering the regular updating of standards, the latest edition of the PNS shall be used as a 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 to 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 EEC Act, the Code of Practice on Energy Labeling of Products (COPE) provides for the calculation methods of the following:

- 1.4.1 The Refrigerating Appliances Energy Efficiency Performance Rating (EEPR) or the star rating shown in the DOE Energy Label is based on the **Energy Efficiency Factor (EEF)**, which is calculated as follows:

$$\text{Energy Efficiency Factor} = \frac{\text{Total adjusted volume, in liters}}{\text{Energy consumption, in kWh/24h}}$$

Where:

**Total adjusted volume** = SVff + SVOC;

**SVff** is the volume of fresh food compartment, expressed in liters;

**SVOC** is the summation of the volume of other compartments, expressed in liters; = ((K1 x SVOC1) + (K2 x SVOC2) + (K3 x SVOC3)...) )

**K** is the adjustment factor.

*Note: The resulting EEF is rounded off to the nearest 0.1 l/kWh. The decision will be based on the rounded-off value.*

*The test temperature for determination of energy consumption shall be 32°C.*

The **adjustment factor K**, (as seen above) shall be calculated as follows:

$$K = \frac{T1 - Tc}{T1 - TM}$$

Where:

**K** is the adjustment factor;

**T1** is the ambient temperature, °C;

**Tc** is the compartment temperatures. i.e., frozen food compartment, chiller compartment, etc., °C; and

**TM** is the fresh food compartment temperature, °C.

*Note: Actual temperatures of each compartment shall be used in the above formula*

Computation of adjusted volumes:

Computation of **adjusted volume of frozen food compartment** shall be made using the following equation:

$$FZAV = SVmfz \times KFZ$$

Where:

**FZAV** is the adjusted volume of frozen food compartment, in liters;

**SVmfz** is the measured volume of frozen food compartment, in liters; and

**KFZ** (same formula as **K**) is the adjustment factor

Computation of **adjusted volume of chiller compartment** shall be made using the following equation:

$$CCAV = SVmcc \times Kcc$$

Where:

**CCAV** is the adjusted volume of chiller compartment, in liters;

**SVmcc** is the measured volume of chiller compartment, in liters; and

**Kcc** (same formula as **K**) is the adjustment factor

Computation of **adjusted volume of cellar compartment** shall be made using the following equation:

$$CAV = SVmc \times KC$$

Where:

**CAV** is the adjusted volume of cellar compartment, in liters;

**SVmc** is the measured volume of cellar compartment, in liters; and

**KC** (same formula as **K**) is the adjustment factor

*Note: The rationale for multiplying each compartment volume by an adjustment factor "K" is that it takes "K" times as much energy to maintain a given insulated space at -18 °C than it does at +4°C in a 32°C ambient temperature.*

*Typical refrigerator-freezer models have two temperature zones, a fresh food storage area that operates at about +4°C and a frozen food storage area that operates at about -18°C for a 3-star freezer compartment. To compare, on an equitable basis, a model with a large percentage of its total volume devoted to freezer space, to a model with small percentage of its total volume devoted to a freezer space, an adjustment factor "K" is applied to the freezer volume. This adjustment is the ratio of heat flow through freezer wall to heat flow through an equivalent fresh food wall, which is proportional to the ratio of the temperature difference.*

The EEPR reflected on the DOE Energy Label shall correspond to the EEV 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 kWh consumption** (based on a specified hour of daily usage), as shown in the DOE Energy Label, the calculation is as follows:

$$\text{Monthly kWh Consumption} = \text{Daily kWh} \times 30$$

Where:

**Daily kWh** is the measured energy consumption for 24 hours. This corresponds to the value reflected in the product test report during product registration.

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

*Monthly Electricity Cost = Monthly kWh Consumption x 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:

*Monthly GHG emission = Monthly kWh Consumption x 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.

The unit of the calculated GHG emission shall be in kg CO<sub>2</sub>.

## 1.5 Minimum Energy Performance (MEP)

- 1.5.1 The rated EEF of refrigerating appliances of varying volumes shall not be less than the values as stated below:

**Table 1. MEP for Refrigerating Appliances**

<b>Product Parameter (Volume)</b>	<b>EEF</b>
113 to < 350 L	240
≥ 350 L	370

Notes:

- The measured EEF shall be rounded-off to a whole number.
- The rules of rounding-off shall be followed.
- The MEP shall be subjected to review and upgrading every three (3) years or earlier, as necessary.

- 1.5.2 Refrigerating appliances 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 applicable.

## 1.6 Energy Efficiency Performance Rating (EEPR) of Refrigerating Appliances

- 1.6.1 Refrigerating Appliances shall be classified based on the rated EEF of the product.

- 1.6.2 The classification shall be represented by a star rating, with one (1) star indicating the lowest range of the EEF and five (5) stars representing the highest range of the EEF.
- 1.6.3 There shall be two (2) categories of EEPs for refrigerating appliances according to volume with its corresponding EEF values, and regardless of compressor speed type as shown in Table 2.

**Table 2. EEP of Refrigerating Appliances**

EEPR	Energy Efficiency Factor (EEF)	
	113 to < 350 L	≥ 350 L
One-Star	240-295	370-425
Two-Star	296-351	426-481
Three-Star	352-407	482-537
Four-Star	408-463	538-593
Five-Star	>463	>593

*Note: Table 2 was generated by analyzing the available EEF data from the PELP System for the year 2022.*

## 1.7 Tolerances

The following tolerances shall apply to all covered refrigerating appliances:

### 1.7.1 Volume

- 1.7.1.1 The measured volume shall not be less than 97% of the rated value or one (1) liter, whichever is higher.
- 1.7.1.2 The volume shall be rounded-off to the 1<sup>st</sup> decimal in accordance with the rules on rounding-off.
- 1.7.1.3 The measured percentage shall be rounded-off to a whole number and the decision shall be based on the rounded-off value.

### 1.7.2 Energy Consumption

- 1.7.2.1 The measured energy consumption shall not be more than 115% of the rated value.
- 1.7.2.2 The energy consumption shall be rounded-off to the 2<sup>nd</sup> decimal in accordance with the rules on rounding-off.
- 1.7.2.3 The measured percentage shall be rounded-off to a whole number. The decision shall be based on the rounded-off value.

*Note: The measured daily energy consumption (kWh/24hr) on energy consumption test will be multiplied by 30 days to get the kWh/month.*

### 1.7.3 Ice-Making Test

- 1.7.3.1 The measured ice-making capacity shall not be less than 85% of the rated value.
- 1.7.3.2 The value of ice-making capacity will be rounded-off to the 3<sup>rd</sup> decimal.
- 1.7.3.3 The measured percentage shall be rounded-off to a whole number. The decision shall be based on the rounded-off value.
- 1.7.3.4 This testing, as well as the declaration of a rated value, is mandatory for units with automatic ice-makers.

### 1.7.4 Freezing Capacity Test

- 1.7.4.1 The measured freezing capacity shall not be less than 85% of the rated value.
- 1.7.4.2 The freezing capacity shall be rounded-off to the 1<sup>st</sup> decimal in accordance with the rules on rounding-off.
- 1.7.4.3 The measured percentage shall be rounded-off to a whole number. The decision shall be based on the rounded-off value.
- 1.7.4.4 This testing, as well as the declaration of a rated value, is mandatory for units classified as refrigerator-freezers.

### 1.7.5 Storage Temperature

- 1.7.5.1 Refrigerating appliances shall have the following measured storage temperatures as follows:

One Door Refrigerator:

FZ =  $\leq -6^{\circ}\text{C}$  and below  
tma =  $0^{\circ}\text{C}$  to  $4^{\circ}\text{C}$

Two Door Refrigerator:

FZ =  $\leq -12^{\circ}\text{C}$  and below  
tma =  $0^{\circ}\text{C}$  to  $4^{\circ}\text{C}$

Refrigerator – Freezer:

FZ =  $\leq -18^{\circ}\text{C}$  and below  
tma =  $0^{\circ}\text{C}$  to  $4^{\circ}\text{C}$

*Note:* a. tma = average temperature of fresh food compartment  
b. FZ = Frozen food compartment

- 1.7.5.2 The refrigerating appliance shall be capable of simultaneously maintaining all required storage temperatures of the different compartments as stated in Table 2 of PNS IEC 62552 – Part 2.



## 1.7.6 Energy Consumption Test

1.7.6.1 Refrigerating appliances shall be tested according to the claimed star rating classification. The target temperature for the frozen food compartment shall be as follows:

**Table 3. Coldness Star Rating of Frozen Food Compartment**

Coldness Star	Symbols	Required Temperature
One-Star	☒	The frozen food compartment shall have temperatures of $\leq -6^{\circ}\text{C}$
Two-Star	☒☒	The frozen food compartment shall have temperatures of $\leq -12^{\circ}\text{C}$
Three-Star	☒☒☒	The frozen food compartment shall have temperatures $\leq -18^{\circ}\text{C}$
Four-Star	☒☒☒☒	The frozen food compartment shall have temperatures $\leq -18^{\circ}\text{C}$ and meets the minimum freezing capacity requirements of Clause 8 of IEC 62552-2

1.7.6.2 Refrigerating appliances must have the measured energy consumption taken at the following temperature range:

One Door Refrigerator:

FZ =  $\leq -6^{\circ}\text{C}$  and below

tma =  $0^{\circ}\text{C}$  to  $4^{\circ}\text{C}$

Multi-compartment Refrigerator:

FZ =  $\leq -12^{\circ}\text{C}$  and below

tma =  $0^{\circ}\text{C}$  to  $4^{\circ}\text{C}$

Refrigerator – Freezer

FZ =  $\leq -18^{\circ}\text{C}$  and below

tma =  $0^{\circ}\text{C}$  to  $4^{\circ}\text{C}$

Note: a. tma = average temperature of fresh food compartment  
b. FZ = Frozen food compartment

1.7.6.3 In general, the measured energy consumption shall correspond to the exact temperature values stated above which can be obtained by interpolation.

1.7.6.4 In order to undertake the required calculations for the operation of the ambient controlled anti-condensation heaters, a map of probability of temperature and humidity data are as follows:

**Table 4. Regional Weather Data**

Relative Humidity	RH band mid-point	Probability of ASEAN		
		Probability at $16^{\circ}\text{C}$	Probability at $22^{\circ}\text{C}$	Probability at $32^{\circ}\text{C}$
0-10%	5%	0.0	0.0	0.0
10-20%	15%	0.0	0.0	0.0
20-30%	25%	0.8	0.4	0.0
30-40%	35%	3.3	3.4	0.3
40-50%	45%	6.4	10.7	2.1
50-60%	55%	8.0	14.2	7.8
60-70%	65%	5.8	9.0	11.3
70-80%	75%	2.5	3.9	6.3



80-90%	85%	0.8	0.9	1.8
90-100%	95%	0.0	0.0	0.3

*Note: For the calculations, relative humidity shall be set to not less than 50% with a Probability at 32°C.*

**1.7.6.5** During energy consumption test, the automatic ice-maker should be disabled, and the water tank or water supply shall be empty.

### **1.7.7 Ice-Making Test**

**1.7.7.1** Ice-Making Capacity = Mass of Water Turned into Ice per Day, in kg/day

**1.7.7.2** Supply water temperature shall be 25°C ±1K.

**1.7.7.3** All test samples shall comply with the minimum requirements of 300g/24hrs ice-making capacity.<sup>1</sup>

### **1.7.8 Freezing Capacity Test**

**1.7.8.1** Freezing capacity = mass in kg of light load / freezing time in hours of light load.

**1.7.8.2** The initial temperature of light load will be at 25°C ±1K.

**1.7.8.3** The light load to be processed is 3.5 kg/100ℓ of volume compartment operating at not more than -18°C.

## **2. Product Verification Testing**

All general technical provisions in the IG 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** Samples shall be tested at a standard test voltage of 230V~±1%, 60Hz ±1%.

**2.2.3** All necessary operational settings required for the proper conduct of the test shall be provided by the Applicant.

<sup>1</sup>In line with the ASEAN Harmonization

**2.2.4** The declared volume of the manufacturer shall be measured prior to the conduct of energy consumption tests to determine the amount of water to be used in load processing.

**2.2.5** The load processing should be commenced more than five (5) hours after the defrost heater operates.

The door of the unfrozen compartment shall be opened less than five (5) minutes after compressor "on".

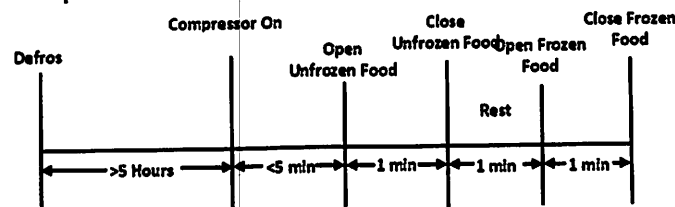
The series of steps including: the opening of the compartment door, the placing of the PET bottles inside the compartment, and the closing of the compartment door must be done within one (1) minute.

Rest for one (1) minute. Then, load the ice tray in freezer compartment within one (1) minute.

For load processing on frozen compartment, the series of steps including: the opening of the compartment door, the placing of the ice tray inside the compartment, and the closing of the compartment door must be done within one (1) minute.

For load processing calculations, please refer to PNS IEC 62552-3.

The process is illustrated below:



*Sequence for Loading Process*

**2.2.6** The claimed rating for Freezing Capacity and Ice-Making shall be verified.

**2.2.7** Conformance to Requirements for Various Case Conditions as illustrated in the table below:

**Table 5: Volume Determination**

Case Condition	1st Sample	2nd Sample	3rd Sample	Conformance
Case 1	Passed	Not Applicable	Not Applicable	Passed
Case 2	Failed	Not Applicable	Not Applicable	Failed

Note: \*Fail – Applicant may verify the test result

**Table 6: Storage Temperature Test**

Case Condition	1st Sample	2nd Sample	3rd Sample	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

**Table 7: Energy Consumption Test**

Case Condition	1st Sample	2nd Sample	3rd Sample	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

**Table 8: Ice-Making Test (if applicable)**

Case Condition	1st Sample	2nd Sample	3rd Sample	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: All test samples shall comply with the minimum requirements of 300g / 24hrs ice-making capacity in line with the ASEAN harmonization (for verification).

**Table 9: Freezing Capacity Test (if applicable)**

Case Condition	1st Sample	2nd Sample	3rd Sample	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: All test samples shall comply with the minimum requirements of 3.5 kg of packages per 100 liters of freezer compartment.

**Table 10: Conformance Evaluation Matrix**

Case Condition	Volume Consideration	Storage Temperature	Energy Consumption Consideration	Ice-Making Test Consideration (if applicable)	Freezing Capacity Test Consideration (if applicable)	Final Verdict	Remarks FCA
Case 1	P	P	P	P	P	P	
Case 2	P	P	P	P	F	F	√
Case 3	P	P	P	F	P	F	√
Case 4	P	P	F	P	P	F	√
Case 5	P	F	N/A	N/A	N/A	F	
Case 6	F	P	P	P	P	F	√

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

Notes:

- The table above will depend on the Applicant's declaration.
- Applies both for tolerances and MEP.
- 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 3<sup>rd</sup> replacement, the testing shall be considered as failed.



2.2.8 The verification testing shall be conducted by the DOE-Lighting Appliance and Testing Division (DOE-LATD) or a DOE-Recognized Testing Laboratory (DOE-RTL) in accordance with the normative reference/s specified in Section 1.3 and the IG stated in Section 2.2. The result shall be submitted directly to the DOE-Energy Efficiency and Conservation Performance Regulation and Enforcement Division (DOE-EPRED).

2.2.9 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 their claimed ratings to comply with the requirements of this 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 are major differences in any of the components related to the performance of refrigerating appliance (e.g., shelves, thermostat control, chiller, nameplate rating, plate, heater, or compressor).

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. Specification and Dimensions of Energy Label

### 3.1 Label Design

110mm

**ENERGY LABEL**  
Frost-Free Refrigerating Appliance  
Energy Efficiency Rating:  
**XXX**  
under standard test conditions

★ ★ ★ ★ ★  
"More stars and higher rating means more savings"

Issuance Year of Energy Rating:  
Monthly Energy Consumption\*:  
Brand Name:  
Product Model:

Volume (L):  
Coldness Star Rating: [ ] [ ] [ ] [ ] [ ]  
Refrigerant:

\*based on 24 hours of daily usage

For more information:  
www.doe.gov.ph

Energy Label issued under Section 15 of Republic Act No. 11285. Non-compliance, removal, defacing, or altering of the Energy Label is a violation under Section 30 and will be subject to the fines, penalties and criminal liability under Sections 32 and 33 of Republic Act No. 11285.  
CN: PPP-CGCC-XXXXXX

Swatches

Pantone Blue 072	C100M98Y2K3 R44G49B140 Web 2B318B	Pantone 3945	COM0Y100K0 R244G229B1 Web F3E501
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150mm

### 3.2 Presentation of the Energy Label



3.3 Products on sale shall have the energy label affixed at the front of the unit or the front of the box displayed for sale, whichever is visible.

### 4. Product Registration

PELP-Registered Companies may register their refrigerating appliance models through the PELP Online Product Registration, which includes the information indicated in the Product Registration Form – Refrigerating Appliances, 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 - Refrigerating Appliances

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	Refrigerating Appliances
Product Category	Cooling, Heating and Ventilating Appliances
Product	Refrigerating Appliances <input type="checkbox"/> Refrigerator <input type="checkbox"/> Refrigerator-Freezer
Particular Product	<input type="checkbox"/> Ref Variable (RFV) <input type="checkbox"/> Ref Fixed (RFF)
Type	<input type="checkbox"/> Manual Defrost <input type="checkbox"/> Frost-Free

Brand Name	
Model Number / Code	
Year Model	
Country of Origin	
Original Equipment Manufacturer (OEM)	
Is the product a generic or a base model?	<input type="checkbox"/> Base <input type="checkbox"/> Generic If Generic, please specify the model code of the Base model: _____
Coldness Star Rating	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
General List of Refrigerants	<input type="checkbox"/> HCFC-123 <input type="checkbox"/> R-407F <input type="checkbox"/> R-449A <input type="checkbox"/> R-134A <input type="checkbox"/> R-408A <input type="checkbox"/> R-452A <input type="checkbox"/> R-23 <input type="checkbox"/> R-409A <input type="checkbox"/> R-507 <input type="checkbox"/> R-290 <input type="checkbox"/> R-410A <input type="checkbox"/> R-508 <input type="checkbox"/> R-32 <input type="checkbox"/> R-412A <input type="checkbox"/> R-513A <input type="checkbox"/> R-404A <input type="checkbox"/> R-417A <input type="checkbox"/> R-600A <input type="checkbox"/> R-407A <input type="checkbox"/> R-422A <input type="checkbox"/> R-407C <input type="checkbox"/> R-438A
Other refrigerants, please specify:	
Global Warming Potential (GWP) of Refrigerant	
Refrigerant Amount:	_____ <input type="checkbox"/> kg <input type="checkbox"/> L
No. of Doors	
Volume (L)	
Total Adjusted Volume (L)	
Energy Consumption (kWh/24h)	
Ice-Making Capacity (kg/day) <i>*mandatory for units with automatic ice-makers</i>	
Freezing Capacity (kg/24hrs) <i>*mandatory for units classified as ref-freezers</i>	
Energy Efficiency Factor (EEF)	
Rated Power Input (W)	
Rated Voltage (V)	
Rated Frequency (Hz)	
Energy Efficiency Performance Rating	<input type="checkbox"/> ★ <input type="checkbox"/> ★★ <input type="checkbox"/> ★★★ <input type="checkbox"/> ★★★★ <input type="checkbox"/> ★★★★★
Other Parameters	

**Notes:**

- a. Number of samples tested for product registration purposes will be up to the Applicant.
- b. The validity of the test report shall be eighteen (18) months from the date of issuance of the report.

9



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.



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

*PA*  
JUN 05 2024

## 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.

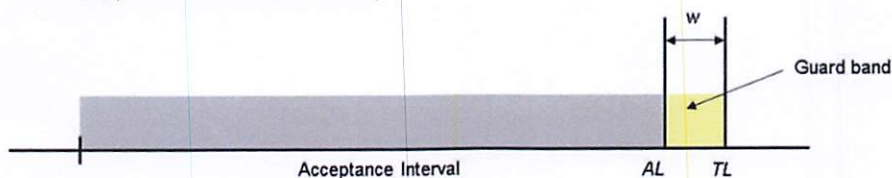
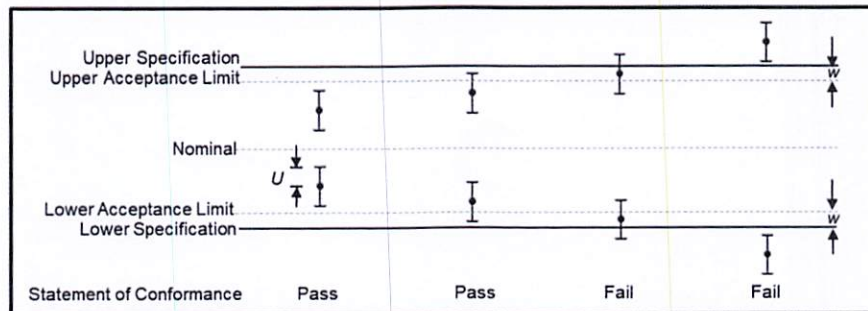
**Tolerance Limit (TL) / Specification Limit** - specified upper or lower bound of permissible values of a property.

### 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%.



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,  $AL = TL - w$

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