

Ruj. Kami : ST(IP/JKE)KE/06/09 ( 02 )  
Tarikh : 1 Mei 2019

**SEMUA  
Pengilang & Pengimport  
Kelengkapan Elektrik**

**Suruhanjaya Tenaga**  
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YBhg. Datuk/Dato'/Datin/Tuan/Puan,

**PEMAKLUMAN: TARikh PERLAKSANAAN PENGEMASKINIAN *MINIMUM ENERGY PERFORMANCE STANDARDS (MEPS)* BAGI KELENGKAPAN TELEVISYEN**

Dengan hormatnya saya merujuk kepada perkara di atas.

2. Dimaklumkan bahawa tarikh perlaksanaan keperluan memenuhi *Minimum Energy Performance Standards (MEPS)* yang baru bagi kelengkapan televisyen akan berkuatkuasa setahun daripada tarikh surat ini dikeluarkan.
3. Mulai dari tarikh penguatkuasaan tersebut, permohonan Perakuan Kelulusan (COA) samada baru atau pembaharuan untuk mengilang, mengimport, menjual, mempamer atau mengiklan kelengkapan televisyen hendaklah mengemukakan laporan ujian prestasi penggunaan tenaga yang terkini mengikut standard pengujian yang telah ditetapkan di dalam panduan yang telah dikeluarkan oleh ST seperti berikut:-

KELENGKAPAN	DOKUMEN	TARIKH DIKELUARKAN
Televisyen	<i>Guide on Minimum Energy Performance Standard Requirements for Television</i>	1 Mei 2019

4. Panduan di atas boleh dimuat turun dari laman sesawang ST di alamat <https://www.st.gov.my/web/download/listing>.
5. Sehubungan dengan itu, diharapkan agar pihak tuan mengambil tindakan sewajarnya bagi tujuan permohonan COA untuk mengilang, mengimport, menjual, mempamer dan mengiklan kelengkapan elektrik yang terlibat.

Sekian, terima kasih.

  
**(MOHD ELMi BIN ANAS)**

Pengarah  
Jabatan Kawal Selia Keselamatan  
Suruhanjaya Tenaga 

- S.k. 1. Pemangku  
Ketua Pegawai Eksekutif  
Suruhanjaya Tenaga
2. Pengarah  
Jabatan Penguatkuasaan & Operasi Kawasan  
Suruhanjaya Tenaga
3. Pengarah  
Jabatan Perancangan & Komunikasi Strategik  
Suruhanjaya Tenaga
4. Pengarah Urusan  
SIRIM QAS International Sdn Bhd  
1, Persiaran Dato' Menteri,  
Seksyen 2, 40000 Shah Alam, Selangor
5. Head, Trade Facilitation  
Dagang Net Technologies Sdn Bhd  
Tower 3, Avenue 5  
The Horizon, Bangsar South  
No 8, Jalan kerinchi  
59200 Kuala Lumpur



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**GUIDE ON MINIMUM ENERGY PERFORMANCE  
STANDARD (MEPS) REQUIREMENTS FOR  
TELEVISION**

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1 MAY, 2019

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## GUIDE ON MINIMUM ENERGY PERFORMANCE STANDARD REQUIREMENTS FOR TELEVISION

### **1.0 Scope**

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This guide specifies the Minimum Energy Performance Standard (MEPS) and energy labeling requirements for television that can be connected to mains power and for household use.

This guide applies for the following types of television size that is up to 177.8 cm (70-inch/(70 inches)):

- a) Plasma
- b) Liquid Crystal Display (LCD)
- c) Light Emitting Diode (LED); and
- d) Cathode Ray Tube (CRT); or any other display type with similar functions

The following products and technologies are excluded from this guide:

- a) Television sets powered solely from batteries;
- b) Front and rear projection display devices;
- c) 4K and 8K televisions; and
- d) Any model(s) that had been granted exemption by the relevant regulatory authority.

This guide does not specify the procedure for Certificate of Approval (COA) application. For COA application procedure and information, kindly please visit the Energy Commission website at [www.st.gov.my](http://www.st.gov.my)

### **2.0 Testing Standard**

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The following testing standard references are indispensable for the application of this document. For dated references, only the edition cited applies.

MS IEC 62301:2012, *Household electrical appliances – Measurement of standby power*.

MS IEC 62087-3:2017, *Audio, video and related equipment – Determination of power consumption – Part 3: Television sets* or equivalent to the International Standard IEC 62087-3:2017, *Audio, video and related equipment – Determination of power consumption – Part 3: Television sets*.

### **3.0 Terms and Definitions**

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#### **3.1 Minimum Energy Performance Standards (MEPS)**

The minimum level of energy efficiency which has to be met by each of the applicable television.

#### **3.2 EEF<sub>average</sub>**

EEF<sub>average</sub> is the Energy Efficiency Factor determined through local market survey.

#### **3.3 EEF<sub>tested</sub>**

EEF<sub>tested</sub> is the Energy Efficiency Factor calculated from the ratio of screen area (cm<sup>2</sup>) over Annual Energy Consumption (kWh).

### **4.0 Star Rating Index**

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Star rating index shall be calculated using the following formula:-

$$\left[ \frac{\text{EEF}_{\text{tested}}}{\text{EEF}_{\text{average}}} - 1 \right] \times 100\%$$

Where,

$$\text{EEF}_{\text{tested}} = \frac{\text{Screen Area (cm}^2\text{)}}{\text{Annual Energy Consumption (kWh)}}$$

Where,

$$\begin{aligned} & \text{Annual Energy Consumption (kWh)} \\ &= 0.365[(P_{\text{on}} \times 5) + P_{\text{ps}}(19 - T_{\text{as}}) + (P_{\text{as}} \times T_{\text{as}})] \end{aligned}$$

$$P_{\text{on}} = \text{Power at "On Mode" (W)}$$

$$P_{\text{ps}} = \text{Power at "Passive Standby Mode" (W)}$$

$$P_{\text{as}} = \text{Power at "Active Standby Mode" (W)}$$

$$T_{\text{as}} = \text{Time on "Active Standby Mode" (hour)}$$

$$\text{EEF}_{\text{average}} = 0.0045 \times (\text{Screen Area, cm}^2) + 27.355$$

## **5.0 Measurement Condition**

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- 5.1** The power measurement shall be carried out under the following modes:
- i. Power measurement during “On Mode”.
  - ii. Power measurement during “Standby Mode”.
- 5.2** The power consumptions during “On Mode” shall be measured according to MS IEC 62087-3:2017 with the following specific conditions:
- i) Supply voltage and frequency: 230V, 50Hz
  - ii) Configuration and picture setting: “Home” or default mode (Clause 4.2 of MS IEC 62087-3:2017)
  - iii) Light source for specific illuminance level: ABC sensor disabled by means of control setting or light source control (Clause 5.6.5 of MS IEC 62087-3:2017).
  - iv) Networking equipment: No networking connectivity applies (Clause 5.6.6 of MS IEC 62087-3:2017).
  - v) Sound level adjustment: Volume control adjusted to obtain 50 mW at the loudspeaker terminal (Clause 6.3.10.7 of MS IEC 62087-3:2017).
  - vi) Power measurement: Dynamic broadcast-content video signal applies during measurement (Clause 6.4.5 of MS IEC 62087-3:2017).
  - vii) Peak luminance measurement: Box and outline video signal applies during measurement (Clause 4.2 of MS IEC 62087-2:2017).
- 5.3** The power consumptions during “Standby Mode” shall be measured according to MS IEC 62301:2012.

Note: Any modification other than cosmetic changes that will affect the performance of the television, will require tests to be conducted again.

## **6.0 Star Rating**

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The Star Rating shall be in accordance with Table 1 below:

<b>Star Rating</b>	<b>Star Index</b>
5	$+70\% \leq \text{Star Index}$
4	$+25\% \leq \text{Star Index} < +70\%$
3	$-22\% \leq \text{Star Index} < +25\%$
2	$-55\% \leq \text{Star Index} < -22\%$
1	$\text{Star Index} < -55\%$

Table 1

## **7.0 MEPS Requirement**

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- 7.1 The MEPS requirement shall be 2-Star.
- 7.2 The maximum power consumptions during “Standby Mode” shall be 1 W.
- 7.3 The minimum peak luminance ratio shall be 60%.

## **8.0 Energy Efficiency Label**

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Based on the Electricity Regulations 1994 (Amendments 2013) Regulation 101A (3)  
"Any equipment that meets all the requirements of efficient use of electricity under sub regulation (1) shall be affixed with an efficiency rating label in such form and manner as may be determined by the Commission."

All manufacturers and importers, must affix the Energy Efficiency Label onto the products before it can be sold to the customer.

### **8.1 Information in the Label**

Please refer to Figure 1 for the information that must be included in the MEPS label.

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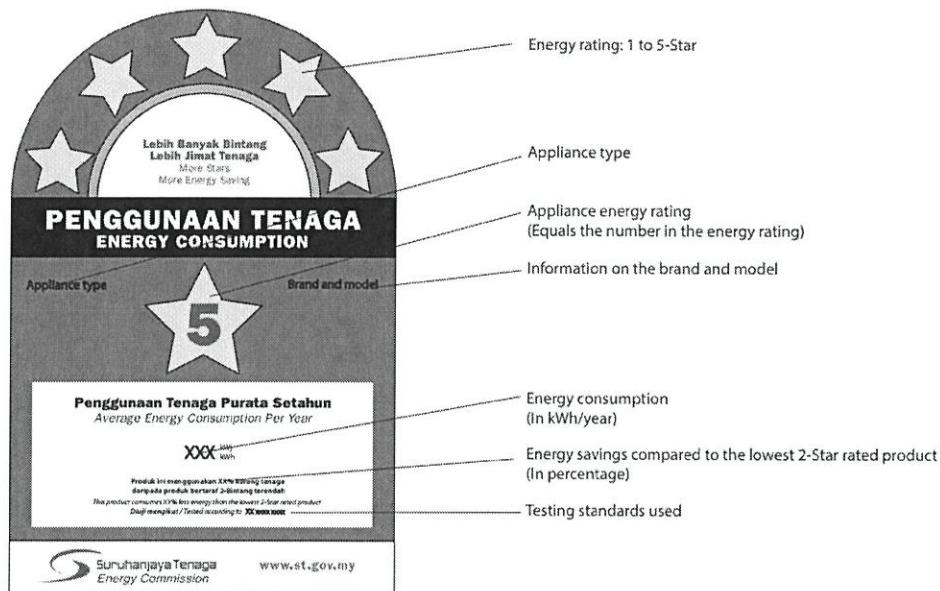


Figure 1: Information Required in the Label

## 8.2 Calculation Method

$$\text{Annual Energy Consumption: } = 0.365[(P_{on} \times 5) + P_{ps}(19-T_{as}) + (P_{as} \times T_{as})]$$

Where,

$P_{on}$  = Power at "On Mode" (W)

$P_{ps}$  = Power at "Passive Standby Mode" (W)

$P_{as}$  = Power at "Active Standby Mode" (W)

$T_{as}$  = Time on "Active Standby Mode" (hour)

Can be obtained from the test report.

Percentage of energy saved compared to the lowest 2 Star model.

$$100\% - [(100 \times (\text{EEF Lowest 2-Stars model} / \text{EEF Tested}))]$$

Where:-

$$\text{EEF Lowest 2-Stars model} = 0.003 \times (\text{Screen area, cm}^2) + 14.421.$$

EEF Tested= From the test report.

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### 8.3 Size Specification

Please refer to Figure 2 for the size specification.



Figure 2: Size Specification

### 8.4 Font Specification

The font guide specified in Figure 3 is the minimum requirement. The font can be bigger and proportionate to the label size but cannot be smaller.

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Figure 3: Font Specification

### 8.5 Colour Specification

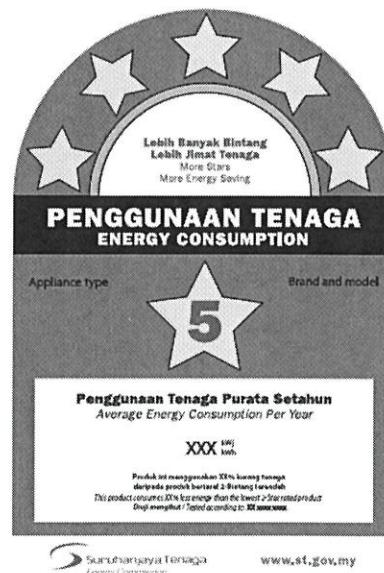
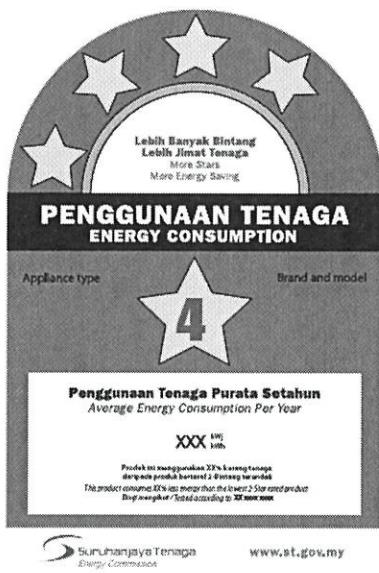
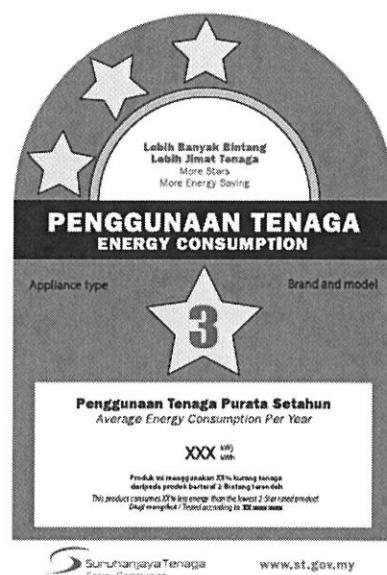
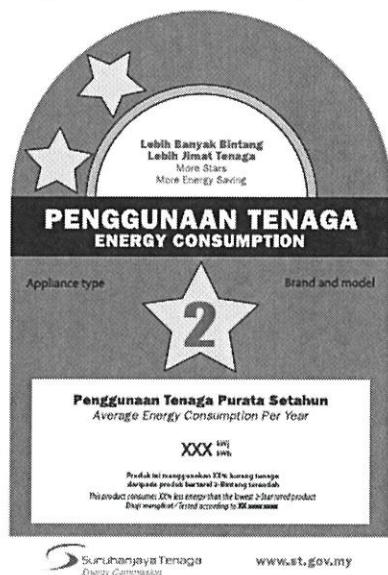
The label shall be printed according to the colour specifications in Figure 4.



Figure 4: Colour Specification

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### 8.6 Design for 2-Star Rating Until 5-Star Rating



Note: The softcopy of the Energy Efficiency Label with AI format can be obtained from the Commission. Please send your request for the softcopy file to [meps@st.gov.my](mailto:meps@st.gov.my)