Commission Delegated Regulation (EU) 2019/2013 of 11 March 2019 supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of electronic displays and repealing Commission Delegated Regulation (EU) No 1062/2010 (Text with EEA relevance)

ANNEX II

Modifications etc. (not altering text)

C1 Annexes 1-4 applied (with modifications) (31.12.2020) by The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2020 (S.I. 2020/1528), regs. 1(4), 29(1)-(3), **Sch. 1**

C2 Annex 2, as applied and modified by S.I. 2020/1528, Sch. 1, amended (1.10.2021) by The Ecodesign for Energy-Related Products and Energy Information (Amendment) Regulations 2021 (S.I. 2021/1097), regs. 1(2), 4(6)

A. Energy efficiency classes

The energy efficiency class of an electronic display shall be determined on the basis of its energy efficiency index for labelling (EEI_{label}) as set out in Table 1. The EEI_{label} of an electronic display shall be determined in accordance with part B of this Annex.

TABLE 1

Energy efficiency classes of electronic displays

Energy Efficiency Class	Energy Efficiency Index (EEI_{label})
A	$EEI_{label} < 0,3$
B	$0,3 \leq EEI_{label} < 0,4$
C	$0,4 \leq EEI_{label} < 0,5$
D	$0,5 \leq EEI_{label} < 0,6$
E	$0,6 \leq EEI_{label} < 0,75$
F	$0,75 \leq EEI_{label} < 0,9$
G	$0,9 \leq EEI_{label}$

B. Energy Efficiency Index (EEI_{label})

The Energy Efficiency Index (EEI_{label}) of the electronic display shall be calculated using the following equation:

$$EEI_{label} = \frac{(P_{measured} + 1)}{(3 \times [90 \times tanh(0,025 + 0,0035 \times (A - 11)) + 4] + 3) + corr_l}$$

where:

A represents the viewing surface area in dm^2;

$P_{measured}$ is the measured power in on mode in Watts in the normal configuration and set as indicated in Table 2;

$corr_l$ is a correction factor set as indicated in Table 3.

TABLE 2

Measurement of $P_{measured}$

Dynamic Range level	$P_{measured}$
Standard Dynamic Range (SDR): $Pmeasured_{SDR}$	Power demand in Watts (W) in on mode, measured when displaying standardised test sequences of moving picture from dynamic broadcast content. Where allowances are applicable according to part C of this Annex, they should be deducted from $P_{measured}$.
High Dynamic Range (HDR) $Pmeasured_{HDR}$	Power demand in Watts (W) in on mode, measured as for $Pmeasured_{SDR}$ but with the HDR functionality activated by metadata in the standardised HDR test sequences. Where allowances are applicable according to part C of this Annex, they should be deducted from $P_{measured}$.

TABLE 3

$corr_I$ value

Electronic Display type	**$corr_I$ value**
Television	0,0
Monitor	0,0
Digital signage	0,00062*(lum-500)*A *where 'lum' is the peak white luminance, in cd/m^2, of the brightest* on mode *configuration of the electronic display and A is the screen area in dm^2*

C. **Allowances and adjustments for the purpose of the EEI_{label} calculation**

Electronic displays with automatic brightness control (ABC) shall qualify for a 10 % reduction in $P_{measured}$ if they meet all of the following requirements:

(a) ABC is enabled in the normal configuration of the electronic display and persists in any other standard dynamic range configuration available to the end user;

(b) the value of $P_{measured}$, in the normal configuration, is measured, with ABC disabled or if ABC cannot be disabled, in an ambient light condition of 100 lux measured at the ABC sensor;

(c) if applicable, the value of $P_{measured}$ with ABC disabled shall be equal to or greater than the on mode power measured with ABC enabled in an ambient light condition of 100 lux measured at the ABC sensor;

(d) with ABC enabled, the measured value of the on mode power must decrease by 20 % or more when the ambient light condition, measured at the ABC sensor, is reduced from 100 lux to 12 lux;

(e) the ABC control of the display screen luminance meets all of the following characteristics when the ambient light condition measured at the ABC sensor changes:

— the measured screen luminance at 60 lux is between 65 % and 95 % of the screen luminance measured at 100 lux;
— the measured screen luminance at 35 lux is between 50 % and 80 % of the screen luminance measured at 100 lux;
— the measured screen luminance at 12 lux is between 35 % and 70 % of the screen luminance measured at 100 lux.

Changes to legislation:
There are currently no known outstanding effects for the Commission Delegated Regulation (EU) 2019/2013, ANNEX II.