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TEST REPORT

On Behalf of

Mobile Pixels Inc

GEMINOS

116-1001P01

Prepared for : Mobile Pixels Inc

5268 Rivergrade Rd., Irwindale, CA 91706

Prepared By : World Standardization Certification & Testing Group (Shenzhen) Co., Ltd.

Building A-B, Baoshi Road, Baoshi Science & Technology Park, Bao'an District, Shenzhen, Guangdong, China

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Date of Test:	13 March 2023 to 17 March 2023
Date of Report:	30 March 2023
Report Number:	WSCT-IT230300131A

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Revision History Of Report

Rev.	Issue No.	Revisions	Effect Page	Revised By
00	WSCT-IT230300131A	Initial Issue	ALL	Wang Fengbing

ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

Global	CBTL	IECEE (International Electrotechnical Commission, The certificate registration number is TL672)
America	USA	A2LA(The certificated registration number is 5768.01)
Asia	China	CNAS (The certificated registration number is L3732)

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TEST REPORT

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019 COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019 EN 62087-3: 2016

Audio, video, and related equipment - Determination of power consumption - Part 3: Television sets

Report Reference No. ..... :	WSCT-IT230300131A
Tested by (+ signature)..... :	Wu Xiaobo
Witnessed by (+ signature)..... :	Gao Liang
Approved by (+ signature)..... :	Liu Haipeng
Date of issue..... :	30 March 2023
Total number of pages..... :	75
Testing laboratory Name..... :	World Standardization Certification & Testing Group (Shenzhen) Co., Ltd.
Address..... :	Building A-B, Baoshi Road, Baoshi Science & Technology Park, Bao'an District, Shenzhen, Guangdong, China
Testing location..... :	Same as above
Applicant's Name..... :	Mobile Pixels Inc
Address..... :	5268 Rivergrade Rd., Irwindale, CA 91706
Standard..... :	COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019, COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019, EN 62087-3: 2016

Test procedure	COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019, COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019, EN 62087-3: 2016
Non-standard test method.....	N/A
Test item Description.....	GEMINOS
Trademark.....	GEMINOS
Model and/or type reference.....	116-1001P01
Type.....	Monitors
Detail of manufacturer marked on the product (if any).....	Yes
Manufacturer.....	Mobile Pixels Inc
Address.....	5268 Rivergrade Rd., Irwindale, CA 91706
Factory.....	Shenzhen Yuko Technology Co.,Ltd
Address.....	The fourth floor and the sixth floor A area of Building A9, the sixth floor and the fourth floor A and B area of Building A4, Tianrui Industrial Park, No. 35, Fuyuan 1st Road, Zhancheng Community, Fuhai Street, Baoan District, Shenzhen
Rating(s).....	24V DC, 5.0A

Test case verdicts	
Test case does not apply to the test object..... :	N(/A)
Test item does meet the requirement..... :	P(ass)
Test item does not meet the requirement..... :	F(ail)
Testing	
Date of receipt of test item ..... :	13 March 2023
Date(s) of performance of test..... :	13 March 2023 to 17 March 2023
Target market of product	Europe/Australia/New Zealand/China (230V 50Hz)

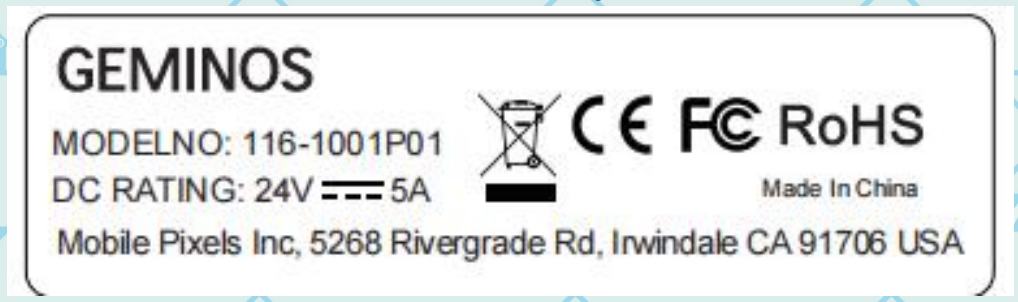
Summary of testing

The sample(s) tested complies with the requirements of COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019, COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019, EN 62087-3: 2016

The product overview:Monitors; Two screens resolution are all 1920X1080, size are all 23.8 inches;

Copy of marking plate:

Remark: There are reference labels. final labels should be including the content of them.



The height of CE symbol ≥ 5.0mm; the height of WEEE symbol ≥ 7.0mm. The width dimension of 'Cadmium free ' shall be greater than 9 mm and the typeface to be used is 'Gill Sans'.

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
Article 1	Subject matter and scope		P
1	This Regulation establishes ecodesign requirements for the placing on the market and putting into service of electronic displays, including televisions, monitors and digital signage displays.		P
2	This Regulation shall not apply to the following:		P
(a)	any electronic display with a screen area smaller than or equal to 100 square centimetres;		N/A
(b)	projectors;		N/A
(c)	all-in-one video conference systems;		N/A
(d)	medical displays;		N/A
(e)	virtual reality headsets;		N/A
(f)	displays integrated or to be integrated into products listed into Article 2, point 3(a) and point 4 of Directive 2012/19/EU;		N/A
(g)	displays that are components or subassemblies of products covered by implementing measures adopted under Directive 2009/125/EC.		N/A
3	The requirements in points A and B of Annex II shall not apply to the following displays: (a) broadcast displays; (b) professional displays; (c) security displays; (d) digital interactive whiteboards; (e) digital photo frames; (f) digital signage displays.		P
4	The requirements in points A, B and C of Annex II shall not apply to the following displays: (a) status displays; (b) control panels.		P
Article 2	Definitions		P
	For the purpose of this Regulation the following definitions shall apply:		P
(1)	'electronic display' means a display screen and associated electronics that, as its primary function, displays visual information from wired or wireless sources;		P
(2)	'television' means an electronic display designed primarily for the display and reception of audiovisual signals and which consists of an electronic display and one or more tuners/receivers;		N/A
(3)	'tuner/receiver' means an electronic circuit that detects television broadcast signal, such as terrestrial digital or satel-lite, but not internet unicast, and facilitates the selection of a TV channel from a group of broadcast channels;		N/A
(4)	'monitor' or 'computer monitor' or 'computer display' means an electronic display intended		P

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	for one person for close viewing such as in a desk-based environment;		
(5)	'digital signage display' means an electronic display that is designed primarily to be viewed by multiple people in non-desktop based and non domestic environments. Its specifications shall include all of the following features: (a) unique identifier to enable addressing a specific display screen; (b) a function disabling unauthorised access to the display settings and displayed image; (c) network connection (encompassing a hard-wired or wireless interface) for controlling, monitoring or receiving the information to display from remote unicast or multicast but not broadcast sources; (d) designed to be installed hanging, mounted or fixed to a physical structure for viewing by multiple people and not placed on the market with a ground stand; (e) does not integrate a tuner to display broadcast signals;		N/A
(6)	'screen area' means the viewable area of the electronic display calculated by multiplying the maximum viewable image width by the maximum viewable image height along the surface of the panel (both flat or curved);		P
(7)	digital photo frame' means an electronic display that displays exclusively still visual information;		N/A
(8)	'projector' means an optical device for processing analogue or digital video image information, in any format, to modulate a light source and project the resulting image onto an external surface;		N/A
(9)	'status display' means a display used to show simple but changing information such as selected channel, time or power consumption. A simple light indicator is not considered a status display;		N/A
(10)	'control panel' means an electronic display whose main function is to display images associated with product operational status; it may provide user interaction by touch or other means to control the product operation. It may be integrated into products or specifically designed and marketed to be used exclusively with the product;		N/A
(11)	'all-in-one video conference system' means a dedicated system designed for video conferencing and collaboration, integrated within a single enclosure, whose specification shall include all of the following features: (a) support for specific videoconference protocol ITU-T H.323 or IETF SIP as delivered by the manufacturer; (b) camera(s), display and processing capabilities for two-way real-time video including packet loss resilience;		N/A

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	(c) loudspeaker and audio processing capabilities for two-way real-time hands-free audio including echo cancellation; (d) an encryption function; (e) HiNA;		
(12)	HiNA' means High Network Availability as defined in Article 2 of Regulation (EC) No 1275/2008;		N/A
(13)	'broadcast display' means an electronic display designed and marketed for professional use by broadcasters and video production houses for video content creation. Its specifications shall include all of the following characteristics: (a) colour calibration function; (b) input signal analysis function for input signal monitoring and error detection, such as wave-form monitor/vector scope, RGB cut off, facility to check the video signal status at actual pixel resolution, interlace mode and screen marker; (c) Serial Digital Interface (SDI) or Video over internet Protocol (VoIP) integrated with the product; (d) not intended for use in public areas;		N/A
(14)	digital interactive whiteboard' means an electronic display which allows direct user interaction with the displayed image. The digital interactive whiteboard is designed primarily to provide presentations, lessons or remote collaboration, including the transmission of audio and video signals. Its specification shall include all of the following features: (a) primarily designed to be installed hanging, mounted on a ground stand, set on a shelf or desk or fixed to a physical structure for viewing by multiple people; (b) to be necessarily used with computer software with specific functionalities to manage content and interaction; (c) integrated or designed to be specifically used with a computer for running the software in point (b); (d) a display screen area greater than 40 dm^2; (e) user interaction by finger or pen touch or other means such as hand, arm gesture or voice;		N/A
(15)	'professional display' means an electronic display designed and marketed for professional use for editing video and graphic images. Its specification shall include all of the following features: (a) a contrast ratio of at least 1000:1 measured at a perpendicular to the vertical plane of the screen and at least 60:1 measured at a horizontal viewing angle of at least 85° relative to		N/A

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	that perpendicular and at least 83° from the perpendicular on a curved screen, with or without a screen cover glass; (b) a native resolution of at least 2,3 mega pixels; (c) colour Gamut support is 38,4 % of CIE LUV or greater (equivalent to greater than 99 % of Adobe RGB and over 100 % of sRGB colour space). Shifts in colour space are allowable as long as the resultant colour space is at least 38,4 % of CIE LUV. Colour and luminance uniformity shall be as required for grade 1 monitors;		
(16)	'security display' means an electronic display whose specification shall include all of the following features: (a) self-monitoring function capable of communicating at least one of the following information to a remote server: — power status; — internal temperature from anti-overload thermal sensing; — video source; — audio source and audio status (volume/mute); — model and firmware version; (b) user-specified specialist form factor facilitating the installation of the display into professional housings or consoles;		N/A
(17)	'integrated', referring to a display which is part of another product as a functional component, means an electronic display that is not able to be operated independently from the product and that depends on it for providing its functions, including power;		N/A
(18)	'medical display' means an electronic display covered by the scope of: (a) Council Directive 93/42/EEC (16) concerning medical devices; or (b) Regulation (EU) 2017/745 of the European Parliament and of the Council (17) on medical devices; or (c) Council Directive 90/385/EEC (18) on the approximation of the laws of the Member States relating to active implantable medical devices; or (d) Directive 98/79/EC of the European Parliament and of the Council (19) on in vitro diagnostic medical devices; or (e) Regulation (EU) 2017/746 of the European Parliament and of the Council (20) on in vitro diagnostic medical devices;		N/A
(19)	'grade-1 monitor' means a monitor for high-level technical quality evaluation of images at key points in a production or broadcast workflow, such as image capture, post-production,		N/A

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	transmission and storage;		
(20)	Virtual reality headset' means a head-weareable device that provides immersive virtual reality for the wearer by displaying stereoscopic images for each eye with head motion tracking functions.		N/A
	For the purposes of the Annexes, additional definitions are set out in Annex I.		--
Article 3	Ecodesign requirements		P
	The ecodesign requirements set out in Annex II shall apply from the dates indicated therein.		P
Article 4	Conformity assessment		P
1	The conformity assessment procedure referred to in Article 8 of Directive 2009/125/EC shall be the internal design control system set out in Annex IV to that Directive or the management system set out in Annex V to that Directive.		P
2	For the purposes of conformity assessment pursuant to Article 8 of Directive 2009/125/EC, the technical documentation shall contain the reason why certain, if any, plastic parts are not marked as per the exemption set out in point D(2) of Annex II, and the details and results of the calculations set out in Annex III to this Regulation.		P
3	Where the information included in the technical documentation for a particular model has been obtained:		P
(a)	from a model that has the same technical characteristics relevant for the technical information to be provided but is produced by a different manufacturer, or		N/A
(b)	by calculation on the basis of design or extrapolation from another model of the same or a different manufacturer, or both,		P
	the technical documentation shall include the details of such calculation, the assessment undertaken by the manufacturer to verify the accuracy of the calculation and, where appropriate, the declaration of identity between the models of different manufacturers.		P
	The technical documentation shall include a list of all equivalent models, including the model identifiers.		P
4	The technical documentation shall include the information in the order and as set out in Annex VI of Regulation (EU) 2019/2013. For market surveillance purposes, manufacturers, importers or authorised representatives may, without prejudice to Annex IV, point 2(g) of Directive 2009/125/EC, refer to the technical documentation uploaded to the product database which contains the same information laid down in Regulation (EU) 2019/2013.		P
Article 5	Verification procedure for market surveillance purposes		P
	Member State authorities shall apply the verification procedure set out in Annex IV to this Regulation when performing the market surveillance checks referred to in Article 3 point 2 of		P

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	Directive 2009/125/EC.		
Article 6	Circumvention and software updates		P
	The manufacturer or importer or authorised representative shall not place on the market products designed to be able to detect they are being tested (e.g. by recognising the test conditions or test cycle) and to react specifically by automatically altering their performance during the test with the aim of reaching a more favourable level, for any of the parameters declared by the manufacturer, importer or authorised representative, in the technical documentation or included in any of the documentation provided. The energy consumption of the product and any of the other declared parameters shall not deteriorate after a software or firmware update when measured with the same test standard originally used for the declaration of conformity except with explicit consent of the end-user prior to the update. No performance change shall occur as result of rejecting the update. A software update shall never have the effect of changing the product's performance in a way that makes it non-compliant with the ecodesign requirements applicable for the declaration of conformity.		P
Article 7	Indicative benchmarks		P
	The indicative benchmarks for the best-performing products and technologies available on the market at the time of adopting this Regulation are set out in Annex V.		P
Article 8	Review		--
	The Commission shall review this Regulation in the light of technological progress and shall present the results of the assessment, including, if appropriate, a draft revision proposal, to the Consultation Forum no later than 25 December 2022.		--
	This review shall in particular assess: (a) the need to update the definitions or the scope of the Regulation; (b) the appropriateness of the balance of stringency between larger and smaller products; (c) the need to adapt regulatory requirements as result of new technologies available, such as HDR, 3D mode, high frame rate, resolution levels above UHD-8K; (d) the appropriateness of the allowances; (e) the appropriateness of setting on-mode energy efficiency requirements for digital signage displays or other displays not covered in this respect; (f) the appropriateness of setting different or additional requirements to enhance durability, to facilitate repair and reuse, including the time frame for making available spare parts, and for including a standardised external power supply; (g) the appropriateness of setting different or additional requirements to improve dismantling		--

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	at end of life and recyclability, including in relation to critical raw materials and in relation to the conveying of information to recyclers; (h) resource efficiency requirements for displays integrated into products covered by Directive 2009/125/EC and into any other product belonging to the scope of Directive 2012/19/EU.		
Article 9	Amendment to Regulation (EC) No 1275/2008		P
	Annex I to Regulation (EC) No 1275/2008 is amended as follows:		P
(a)	point 2 is replaced by the following:		P
	'2. Information technology equipment intended primarily for use in the domestic environment, but excluding desktop computers, integrated desktop computers and notebook computers as defined in Commission Regulation (EU) No 617/2013, as well as electronic displays covered by Regulation (EU) 2019/2021 (*). (*) Commission Regulation (EU) 2019/2021 of 1 October 2019 laying down eco-design requirements for electronic displays pursuant to Directive 2009/125/EC of the European Parliament and of the Council, amending Commission Regulation (EC) No 1275/2008 and repealing Commission Regulation (EC) 642/2009 (OJ L 315, 5.12.2019, p. 241).'		P
(b)	in point 3, the last entry is replaced by the following:		P
	and other equipment for the purpose of recording or reproducing sound or images, including signals or other technologies for the distribution of sound and image other than by telecommunications, but excluding electronic displays covered by Regulation (EU) 2019/2021'.		P
Article 10	Repeal		P
	Regulation (EC) No 642/2009 is repealed with effect from 1 March 2021.		P
Article 11	Entry into force and application		P
	This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union. It shall apply from 1 March 2021. However, Article 6, first paragraph shall apply from 25 December 2019. This Regulation shall be binding in its entirety and directly applicable in all Member States. Done at Brussels, 1 October 2019.		P
ANNEX	Definitions applicable for the Annexes		P

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
I			
	The following definitions shall apply:		P
(1)	'on mode' or 'active mode' means a condition in which the electronic display is connected to a power source, has been activated and is providing one or more of its display functions;	See Test Table 2	P
(2)	'off mode' means a condition in which the electronic display is connected to the mains power source and is not providing any function; the following shall also be considered as off mode: (1) conditions providing only an indication of off mode condition; (2) conditions providing only functionalities intended to ensure electromagnetic compatibility pursuant to Directive 2014/30/EU of the European Parliament and of the Council (1);	See Test Table 4	P
(3)	'standby mode' means a condition where the electronic display is connected to a power source, depends on energy input from that source to work as intended and provides only the following functions, which may persist for an indefinite time: — reactivation function, or reactivation function and only an indication of enabled reactivation function; and/or — information or status display;	See Test Table 5	P
(4)	'organic light emitting diode (OLED)' means a technology in which light is produced from a solid state device embodying a pn junction of organic material. A junction emits optical radiation when excited by electric current;		N/A
(5)	''microLED display' means an electronic display where individual pixels are lit using microscopic GaN LED technology;		N/A
(6)	'normal configuration' means a display setting which is recommended to the end-user by the manufacturer from the initial set up menu or the factory setting that the electronic display has for the intended product use. It must deliver the optimal quality for the end user in the intended environment and for the intended use. The normal configuration is the condition in which the values for off, standby, networked standby and on mode are measured;		P
(7)	'External Power Supply (EPS)' means a device as defined in Commission Regulation (EU) 2019/1782 (2);		P
(8)	'USB' means Universal Serial Bus;		P

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
(9)	'Automatic Brightness Control (ABC)' means the automatic mechanism that, when enabled, controls the brightness of an electronic display as a function of the ambient light level illuminating the front of the display;	No	N/A
(10)	'default', referring to a specific feature or setting, means the value of a specific feature as set at the factory and available when the customer uses the product for the first time and after performing a 'reset to factory settings' action, if allowed by the product;		P
(11)	'luminance' means the photometric measure of the luminous intensity per unit area of light traveling in a given direction, expressed in units of candelas per square meter (cd/m^2). The term brightness is often used to 'subjectively' qualify the luminance of a display;	See Test Table 9	P
(12)	'close viewing' means a viewing distance comparable to that obtained when viewing an electronic display held in the hand or when sitting at the desk;		P
(13)	'forced menu' means a specific menu, appearing upon initial start-up of the display or upon a reset to factory settings, offering a set of alternative display settings, pre-defined by the manufacturer;		P
(14)	'network' means a communication infrastructure with a topology of links and an architecture that includes the physical components, organisational principles and communication procedures and formats (protocols);		N/A
(15)	'network interface' or 'network port' means a wired or wireless physical interface, providing network connection, through which functions of the electronic display can be remotely activated and data received or sent. Interfaces to input data such as video and audio signals, but not originated from a network source and not using a network address, are not considered to be a network interface;		N/A
(16)	'network availability' means the capability of an electronic display to activate functions after a remotely initiated trigger has been detected by a network interface;		N/A
(17)	'networked display' means an electronic display that can connect to a network using one of its network interfaces, if enabled;		N/A
(18)	'networked standby mode' means a condition in which the electronic display is able to resume a function by way of a remotely initiated trigger from a network interface;		N/A
(19)	'reactivation function' means a function that via a remote switch, a remote control unit, an internal sensor, a timer or, for networked displays in networked standby mode, the network,		N/A

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	provides a switch from standby mode or networked standby mode to a mode, other than off-mode, providing additional functions;		
(20)	'room presence sensor' or 'gesture detection sensor' or 'occupancy sensor' means a sensor monitoring and reacting to the movements in the space around the product whose signal can trigger the switching to on mode. Lack of movement detection for a predetermined time can be used to switch into standby mode or networked standby mode;		N/A
(21)	'pixel (picture element)' means the area of the smallest element of a picture that can be distinguished from its neighbouring elements;	See Test Table 11	P
(22)	'touch functionality' means the possibility of inputting commands using, as input device, a touch-sensitive device, that generally is in the form of a transparent film layered on top of an electronic display panel;		N/A
(23)	'brightest on mode configuration' means the configuration of the electronic display, set by the manufacturer, which provides an acceptable picture with the highest measured peak white luminance;	See Test Table 9	P
(24)	'shop configuration' means the configuration for use specifically in the context of demonstrating the electronic display, for example in high illumination (retail) conditions and not involving an auto power-off if no user action or presence is detected. This configuration may be not accessible through a displayed menu;		P
(25)	'dismantling' means possibly irreversible taking apart of an assembled product into its constituent materials and/or components;		--
(26)	'disassembling' means reversible taking apart of an assembled product into its constituent materials and/or components without functional damage that would preclude reassembling, reuse or refurbishment of the product;		P
(27)	'step' referring to dismantling or disassembling, means an operation that finishes with a change of tool or with the removal of a component or part;		P
(28)	'Printed Circuit Board' (PCB) means an assembly that mechanically supports and electrically connects electronic or electrical components using conductive tracks, pads and other features etched from one or more sheet layers of conductive metal laminated onto or between sheet layers of a non-conductive substrate;		P
(29)	'PMMA' means PolyMethylMethAcrylate;		P
(30)	'flame retardant' or 'fire retardant' means a substance that markedly retards the propagation of a flame;		P
(31)	'halogenated flame retardant' means a flame retardant that contains any halogen;		P
(32)	'homogeneous material' means one material of uniform composition throughout or a		P

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	material consisting of a combination of materials, that cannot be disjointed or separated into different materials by mechanical actions such as unscrewing, cutting, crushing, grinding and abrasive processes;		
(33)	'product database' means a collection of data concerning products which is arranged in a systematic manner and consists of a consumer-oriented public part, where information concerning individual product parameters is accessible by electronic means, of an online portal for accessibility and of a compliance part, with clearly specified accessibility and security requirements, as laid down in Regulation (EU) 2017/1369;		P
(34)	'equivalent model' means a model which has the same technical characteristics relevant for the technical information to be provided, but which is placed on the market or put into service by the same manufacturer, importer or authorised representative as another model with a different model identifier;		P
(35)	'model identifier' means the code, usually alphanumeric, which distinguishes a specific product model from other models with the same trade mark of the same manufacturer's, importer's or authorised representative's name;		P
(36)	'spare part' means a separate part that can replace a part with the same function in a product;		P
(37)	professional repairer' means an operator or undertaking which provides services of repair and professional maintenance of electronic displays.		P
ANNEX II	Ecodesign requirements		P
A	ENERGY EFFICIENCY REQUIREMENTS		P
1	ENERGY EFFICIENCY INDEX LIMITS FOR ON-MODE		P
	The energy efficiency index (EEI) of an electronic display shall be calculated using the following equation: $EEI = \frac{(P_{measured} + 1)}{(3 \times [90 \times tanh(0{,}02 + 0{,}004 \times (A - 11)) + 4] + 3) + 3}$ Where: A represents the screen area in dm^2; $P_{measured}$ is the measured power in Watts in on mode in the normal configuration, in standard dynamic range (SDR); corr is a correction factor of 10 for OLED electronic displays that do	$P_{measured}$(SDR)=19.63W (See Test Table 8) LCD electronic displays, Corr=0 A=15.6285dm^2 EEI=0.73 Screen Resolutions (pixels)=2073600 (Up Screen) $P_{measured}$(SDR)=19.6	P

COMMISSION REGULATION (EU) 2019/2021 of 1 October 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	not apply the ABC allowance in point B (1). This shall apply until 28 February 2023. corr shall be zero in all other cases. The EEI of an electronic display shall not exceed the maximum EEI (EEI_{max}) according to the limits in Table 1 from the dates indicated. *Table 1* **EEI limits for on-mode** 1 March 2021: 0,90 / 1,10 / n.a. 1 March 2023: 0,75 / 0,90 / 0,90 (EEI max for electronic displays with resolution up to 2 138 400 pixels (HD); EEI max for electronic displays with resolution above 2 138 400 pixels (HD) and up to 8 294 400 pixels (UHD-4k); EEI max for electronic displays with resolution above 8 294 400 pixels (UHD-4k) and for MicroLED displays)	3W (See Test Table 8) LCD electronic displays, Corr=0 A=15.6285dm^2 EEI=0.73 Screen Resolutions (pixels)=2073600 (Down Screen) EEI meet the Table 1 limits	
B	ALLOWANCES AND ADJUSTMENTS FOR THE PURPOSE OF THE EEI CALCULATION AND FUNCTIONAL REQUIREMENTS From 1 March 2021, electronic displays shall meet the requirements listed below.		P
1	Electronic displays with automatic brightness control (ABC)		N/A
	Electronic displays 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 Pmeasured, 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) the value of $P_{measured}$ with ABC disabled, if applicable, 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; and (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:	No	N/A

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	— 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; and — the measured screen luminance at 12 lux is between 35 % and 70 % of the screen luminance measured at 100 lux		
2.	Forced menu and set up menus		P
	Electronic displays may be placed on the market with a forced menu on initial activation proposing alternative settings. Where a forced menu is provided, the normal configuration shall be set as default choice, otherwise the normal configuration shall be the out-of-the-box setting.		P
	If the user selects a configuration other than the normal configuration and this configuration results in a higher power demand than the normal configuration, a warning message about the likely increase in energy use shall appear and confirmation of the action shall be explicitly requested.		P
	If the user selects a setting other than those that are part of the normal configuration and this setting results in a higher energy consumption than the normal configuration, a warning message about the likely increase in energy consumption shall appear and confirmation of the action explicitly requested.		P
	A change by the user in a single parameter in any setting shall not trigger any change in any other energy-relevant parameter, unless unavoidable. In such a case a warning message shall appear about the change of other parameters and the confirmation of the change shall be explicitly requested.		P
3	Peak white luminance ratio		P
	In the normal configuration, the peak white luminance of the electronic display in a 100 lux ambient light viewing environment shall not be less than 220 cd/m^2 or, if the electronic display is primarily intended for close viewing by a single user, not less than 150 cd/m^2.	See Test Table 9	P
	If the electronic display's peak white luminance in the normal configuration is set to lower values, it shall not be less than 65 % of the peak white luminance of the display, in a 100 lux ambient light viewing environment in the brightest on mode configuration.	See Test Table 9	P
C	OFF MODE, STANDBY AND NETWORKED STANDBY MODE REQUIREMENTS		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	From 1 March 2021, electronic displays shall meet the requirements listed below.		
1	Power demand limits other than on-mode Electronic displays shall not exceed power demand limits in the different modes and conditions listed in Table 2:	P_{Off}=0W (See Test Table 4) $P_{Standby-mode(Standby-Passive)}$=0.42W (See Test Table 5) (Two Screens) meet the Table 2 limits	P
2	Availability of off, standby and networked standby modes		P
	Electronic displays shall provide off mode or standby mode or a networked standby mode or other modes which do not exceed the applicable power demand requirements for standby mode.		P
	The configuration menu, instruction manuals and other documentation, if any, shall refer to off mode, standby mode or networked standby mode using those terms.		P
	Automatic switch to off mode and/or standby mode and/or another mode which does not exceed the applicable power demand requirements for standby mode shall be set as default, including for networked displays where the network interface is enabled when in on mode		N/A
	Networked standby mode shall be disabled in 'normal configuration' of a networked television. The end user shall be prompted to confirm the activation of networked standby, if it is needed for a chosen remotely activated function, and must be able to disable it.		N/A
	Networked electronic displays shall comply with the requirements for standby mode when networked standby mode is disabled.		N/A
3	Automatic standby in televisions	Monitor needs to meet conditions	P
(a)	Televisions shall provide a power management function, enabled as delivered by the manufacturer that, within 4 hours following the last user interaction, shall switch the		N/A

Table 2

power demand limits other than on-mode, in Watts

	Off mode	Standby mode	Networked standby mode
Maximum limits	0,30	0,50	2,00
Allowances for additional functions when present and enabled			
Status display	0,0	0,20	0,20
Deactivation using room presence detection	0,0	0,50	0,50
Touch functionality, if usable for activation	0,0	1,00	1,00
HiNA function	0,0	0,0	4,00
Total maximum power demand with all additional functions when present and enabled	*0,30*	*2,20*	*7,70*

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	television from on mode into standby mode or networked standby mode or another mode which does not exceed the applicable power demand requirements respectively for standby or networked standby mode. Before such automatic switch, televisions shall show, for at least 20 seconds, an alert message warning the user of the impending switch, with possibility of delaying or temporarily cancelling it.		
(b)	If the television provides a function allowing the user to shorten, extend or disable the 4-hour period for automatic mode transitions detailed in (a), a warning message shall appear about a potential increase in energy use and a confirmation of the new setting must be requested when an extension beyond the 4-hour period or disabling is selected.		P
(c)	If the television is equipped with a room presence sensor, the automatic transition from on mode into any mode as detailed in (a) applies if no presence is detected for no more than 1 hour.		N/A
(d)	Televisions with various selectable input sources shall prioritise the power management protocols of the signal source selected and displayed over those default power management mechanisms described in the paragraphs (a) to (c) above.		P
4	Automatic standby in displays other than televisions		P
	Electronic displays other than televisions, with various selectable input sources shall switch, as configured in the normal configuration, into standby mode, networked standby mode or another mode which does not exceed the applicable power demand requirements respectively for standby or networked standby mode when no input is detected by any input source for over 10 seconds and, for digital interactive whiteboards and for broadcast displays, for over 60 minutes.		N/A
	Before triggering such a switch, a warning message shall be displayed and the switch completed within 10 minutes		P
D.	MATERIAL EFFICIENCY REQUIREMENTS From 1 March 2021, electronic displays shall meet the requirements indicated below.		P
1	Design for dismantling, recycling and recovery		P
	Manufacturers, importers or their authorised representatives shall ensure that joining, fastening or sealing techniques do not prevent the removal, using commonly available tools, of the components indicated in point 1 of Annex VII of Directive 2012/19/EU on WEEE or in Article 11 of Directive 2006/66/EC of the European Parliament and of the Council (1) on batteries and accumulators and waste batteries and accumulators, when present.		P
	Manufacturers, importers or their authorised representatives shall, without prejudice to point 1 of Article 15 of Directive 2012/19/EU, make available, on a free-access website, the		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	dismantling information needed to access any of the products components referred to in point 1 of Annex VII of Directive 2012/19/EU.		
	This dismantling information shall include the sequence of dismantling steps, tools or technologies needed to access the targeted components.		P
	The end of life information shall be available until at least 15 years after the placing on the market of the last unit of a product model.		P
2	Marking of plastic components		P
	Plastic components heavier than 50 g:		P
(a)	Shall be marked by specifying the type of polymer with the appropriate standard symbols or abbreviated terms set between the punctuation marks '>' and '<' as specified in available standards. The marking shall be legible. Plastic components are exempt from marking requirements in the following circumstances: (i) the marking is not possible because of the shape or size; (ii) the marking would impact on the performance or functionality of the plastic component; and (iii) marking is technically not possible because of the molding method. For the following plastic components no marking is required: (i) packaging, tape, labels and stretch wraps; (ii) wiring, cables and connectors, rubber parts and anywhere not enough appropriate surface area is available for the marking to be of a legible size; (iii) PCB assemblies, PMMA boards, optical components, electrostatic discharge components, electromagnetic interference components, speakers; (iv) transparent parts where the marking would obstruct the function of the part in question.		P
(b)	Components containing flame retardants shall additionally be marked with the abbreviated term of the polymer followed by hyphen, then the symbol 'FR' followed by the code number of the flame retardant in parentheses. The marking on the enclosure and stand components shall be clearly visible and readable.		P
3	Cadmium logo		P
	Electronic displays with a screen panel in which concentration values of Cadmium (Cd) by weight in homogeneous materials exceed 0,01 % as defined in Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment, shall be labelled with the 'Cadmium inside' logo. The logo shall be clearly visible durable, legible and indelible. The logo shall be in the form of the following graphic:		N/A
	The dimension of 'a' shall be greater than 9 mm and the typeface to be used is 'Gill Sans'.		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	An additional 'Cadmium inside' logo shall be firmly attached internally on the display panel or molded in a position clearly visible to workers once the external back cover bearing the external logo is removed.		N/A
	A 'Cadmium free' logo shall be used if concentration values of Cadmium (Cd) by weight in any homogeneous material part of the display do not exceed 0,01 % as defined in Directive 2011/65/EU.		P
4	Halogenated flame retardants		P
	The use of halogenated flame retardants is not allowed in the enclosure and stand of electronic displays.		P
5	Design for repair and reuse		P
(a)	Availability of spare parts:		P
(1)	manufacturers, importers or authorised representatives of electronic displays shall make available to professional repairers at least the following spare parts: internal power supply, connectors to connect external equipment (cable, antenna, USB, DVD and Blue-Ray), capacitors, batteries and accumulators, DVD/Blue-Ray module if appli cable and HD/SSD module if applicable for a minimum period of seven years after placing the last unit of the model on the market;		P
(2)	manufacturers, importers or authorised representatives of electronic displays shall make available to professional repairers and end-users at least the following spare parts: external power supply and remote control for a minimum period of seven years after placing the last unit of the model on the market;		P
(3)	manufacturers shall ensure that these spare parts can be replaced with the use of commonly available tools and without permanent damage to the appliance;		P
(4)	the list of spare parts concerned by point 1 and the procedure for ordering them shall be publicly available on the free access website of the manufacturer, importer or authorised representative, at the latest two years after the placing on the market of the first unit of a model and until the end of the period of availability of these spare parts; and		P
(5)	the list of spare parts concerned by point 2 and the procedure for ordering them and the repair instructions shall be publicly available on the manufacturer's, the importer's or authorised representative's free access website, at the moment of the placing on the market of the first unit of a model and until the end of the period of availability of these spare parts.		P
(b)	Access to repair and maintenance information		P
	After a period of two years after the placing on the market of the first unit of a model or of an		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	equivalent model, and until the end of the period mentioned under (a), the manufacturer, importer or authorised representative shall provide access to the appliance repair and maintenance information to professional repairers in the following conditions:		
(1)	the manufacturer's, importer's or authorised representative's website shall indicate the process for professional repairers to register for access to information; to accept such a request, manufacturers, importers or authorised representative may require the professional repairer to demonstrate that: (i) the professional repairer has the technical competence to repair electronic displays and complies with the applicable regulations for repairers of electrical equipment in the Member States where it operates. Reference to an official registration system as professional repairer, where such system exists in the Member States concerned, shall be accepted as proof of compliance with this point; (ii) the professional repairer is covered by insurance covering liabilities resulting from its activity, regardless of whether this is required by the Member State;		P
(2)	the manufacturers, importers or authorised representatives shall accept or refuse the registration within 5 working days from the date of request by the professional repairer;		P
(3)	manufacturers, importers or authorised representatives may charge reasonable and proportionate fees for access to the repair and maintenance information or for receiving regular updates. A fee is reasonable if it does not discourage access by failing to take into account the extent to which the professional repairer uses the information.		P
	Once registered, a professional repairer shall have access to the requested repair and maintenance information within one working day after requesting it. The available repair and maintenance information shall include: — the unequivocal appliance identification; — a disassembly map or exploded view; — list of necessary repair and test equipment; — component and diagnosis information (such as minimum and maximum theoretical values for measurements); — wiring and connection diagrams; — diagnostic fault and error codes (including manufacturer-specific codes, where applicable); and — data records of reported failure incidents stored on the electronic display (where applicable).		P
(c)	Maximum delivery time of spare parts		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
(1)	during the period mentioned under point 5(a)(1) and point 5(a)(2), the manufacturer, importer or authorised representatives shall ensure the delivery of the spare parts for electronic displays within 15 working days after having received the order;		P
(2)	in the case of spare parts available only to professional repairers, this availability may be limited to professional repairers registered in accordance with point (b).		P
E	INFORMATION AVAILABILITY REQUIREMENTS		P
	From 1 March 2021, the product manufacturer, importer or authorised representative shall make available the information set out below when placing on the market the first unit of a model or of an equivalent model.		P
	The information shall be provided free of charge to third parties dealing with professional repair and reuse of electronic displays (including third party maintenance actors, brokers and spare parts providers).		P
1	Availability of software and firmware updates		P
(a)	The latest available version of the firmware shall be made available for a minimum period of eight years after the placing on the market of the last unit of a certain product model, free of charge or at a fair, transparent and nondiscriminatory cost. The latest available security update to the firmware shall be made available until at least eight years after the placing on the market of the last product of a certain product model, free of charge.		P
(b)	Information on the minimum guaranteed availability of software and firmware updates, availability of spare parts and product support shall be indicated in the product information sheet as from Annex V of Regulation (EU) 2019/2013.		P
ANNEX III	Measurement methods and calculations		P
	For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards the reference numbers of which have been published for this purpose in the Official Journal of the European Union or other reliable, accurate and reproducible methods, which take into account the generally recognised state-of-the-art, and in line with the following provisions. Measurements and calculations shall meet the technical definitions, conditions, equations and parameters set out in this Annex. Electronic displays which can operate in both 2D and 3D modes shall be tested when they operate in 2D mode. An electronic display which is split into two or more physically separate units, but placed on the market in a single package, shall, for checking the conformity with the requirements of		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	this Annex, be treated as a single electronic display. Where multiple electronic displays that can be placed on the market separately are combined in a single system, the individual electronic displays shall be treated as single displays.		
1	General conditions		P
	Measurements shall be made at an ambient temperature of 23 °C +/- 5 °C.		P
2	Measurements of on mode power demand		P
	Measurements of the power demand referred to in Annex II, point A (1) shall fulfil all of the following conditions: (a) measurements of power demand ($P_{measured}$) shall be made in the normal configuration; (b) measurements shall be made using a dynamic broadcast-content video signal representing typical broadcast content for electronic displays in standard dynamic range (SDR). The measurement shall be the average power consumed over 10 consecutive minutes; (c) measurements shall be made after the electronic display has been in the off mode or, if an off-mode is not available, in standby mode, for a minimum of 1 hour immediately followed by a minimum of 1 hour in the on mode and shall be completed before a maximum of 3 hours in on-mode. The relevant video signal shall be displayed during the entire on mode duration. For electronic displays that are known to stabilise within 1 hour, these durations may be reduced if the resulting measurement can be shown to be within 2 % of the results that would otherwise be achieved using the durations described here; (b) (d) where ABC is available, measurements shall be made with it switched off. If ABC cannot be switched off,, then the measurements shall be performed in an ambient light condition of 100 lux measured at the ABC sensor.		P
	Measurements of peak white luminance	See Test Table 9	P
	Measurements of the peak white luminance referred to in Annex II, point B.3 shall be made:		P
(a)	with a luminance meter, detecting that portion of the screen exhibiting a full (100 %) white image, which is part of a 'full screen test' pattern that does not exceed the average picture level (APL) point where any power limiting or other irregularity occurs in the electronic display luminance drive system affecting the electronic display luminance;		P
(b)	without disturbing the luminance meter's detection point on the electronic display whilst switching between any of the conditions referred to in Annex II, point B.3.		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
Article 1	Subject matter and scope		P
1	This Regulation establishes requirements for the labelling of, and the provision of supplementary product information on electronic displays, including televisions, monitors and digital signage displays.		P
2	This Regulation shall not apply to the following:		P
(a)	any electronic display with a screen area smaller than or equal to 100 square centimetres;		N/A
(b)	projectors;		N/A
(c)	all-in-one video conference systems;		N/A
(d)	medical displays;		N/A
(e)	virtual reality headsets;		N/A
(f)	displays integrated or to be integrated into products listed in points 3(a) and 4 of Article 2 of Directive 2012/19/EU of the European Parliament and of the Council (8);		N/A
(g)	electronic displays that are components or subassemblies of products covered by implementing measures adopted under Directive 2009/125/EC;		N/A
(h)	broadcast displays;		N/A
(i)	security displays;		N/A
(j)	digital interactive whiteboards;		N/A
(k)	digital photo frames;		N/A
(l)	digital signage displays which meet any of the following characteristics: (1) designed and constructed as a display module to be integrated as a partial image area of a larger display screen area and not intended for use as a standalone display device; (2) distributed self-contained in an enclosure for permanent outdoor use; (3) distributed self-contained in an enclosure with a screen area less than 30 dm^2 or greater than 130 dm^2; (4) the display has a pixel density less than 230 pixels/cm^2 or more than 3 025 pixels/cm^2; (5) a peak white luminance in standard dynamic range (SDR) operating mode of greater than or equal to 1 000 cd/m^2; (6) no video signal input interface and display drive allowing the correct display of a standardised dynamic video test sequence for power measurement purposes;		N/A
(m)	status displays;		N/A
(n)	control panels.		N/A
Article	Definitions		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
2			
	For the purpose of this Regulation the following definitions shall apply:		P
(1)	'electronic display' means a display screen and associated electronics that, as its primary function, displays visual information from wired or wireless sources;		P
(2)	'television' means an electronic display designed primarily for the display and reception of audiovisual signals and which consists of an electronic display and one or more tuners/receivers;		N/A
(3)	'tuner/receiver' means an electronic circuit that detects television broadcast signal, such as terrestrial digital or satellite, but not internet unicast, and facilitates the selection of a TV channel from a group of broadcast channels;		N/A
(4)	'monitor' or 'computer monitor' or 'computer display' means an electronic display intended for one person for close viewing such as in a desk based environment;		P
(5)	'digital photo frame' means an electronic display that displays exclusively still visual information		N/A
(6)	'projector' means an optical device for processing analogue or digital video image information, in any format, to modulate a light source and project the resulting image onto an external surface;		N/A
(7)	'status display' means a display used to show simple but changing information such as selected channel, time or power consumption. A simple light indicator is not considered a status display;		N/A
(8)	'control panel' means an electronic display whose main function is to display images associated with product operational status; it may provide user interaction by touch or other means to control the product operation. It may be integrated into products or specifically designed and marketed to be used exclusively with the product;		N/A
(9)	'all-in-one video conference system' means a dedicated system designed for video conferencing and collaboration, integrated within a single enclosure, whose specifications shall include all of the following features: (a) support for specific video conference protocol ITU-T H.323 or IETF SIP as delivered by the manufacturer; (b) camera(s), display and processing capabilities for two-way real-time video including packet loss resilience; (c) loudspeaker and audio processing capabilities for two-way real-time hands-free audio including echo cancellation;		N/A

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	(d) an encryption function; (e) HiNA;		
(10)	'HiNA' means High Network Availability as defined in Article 1 of Commission Regulation (EC) No 1275/2008 (9);		N/A
(11)	'broadcast display' means an electronic display designed and marketed for professional use by broadcasters and video production houses for video content creation. Its specifications shall include all of the following features: (a) colour calibration function; (b) input signal analysis function for input signal monitoring and error detection, such as wave-form monitor/vector scope, RGB cut off, facility to check the video signal status at actual pixel resolution, interlace mode and screen marker; (c) Serial Digital Interface (SDI) or Video over internet Protocol (VoIP) integrated with the product; (d) not intended for use in public areas;		N/A
(12)	'digital interactive whiteboard' means an electronic display which allows direct user interaction with the displayed image. The digital interactive whiteboard is designed primarily to provide presentations, lessons or remote collaboration, including the transmission of audio and video signals. Its specification shall include all of the following features: (a) primarily designed to be installed hanging, mounted on a ground stand, set on a shelf or desktop or fixed to a physical structure for viewing by multiple people; (b) be necessarily used with computer software with specific functionalities to manage content and interaction; (c) integrated or designed to be specifically used with a computer for running the software in point (b); (d) a display screen area greater than 40 dm^2; (e) user interaction by finger or pen touch or other means such as hand, arm gesture or voice;		N/A
(13)	'security display' means an electronic display whose specification shall include all of the following features: (a) self-monitoring function capable of communicating at least one of the following information to a remote server: — power status;		N/A

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	— internal temperature from anti-overload thermal sensing; — video source; — audio source and audio status (volume/mute); — model and firmware version; (b) user-specified specialist form factor facilitating the installation of the display into professional housings or consoles;		
(14)	'digital signage display' means an electronic display that is designed primarily to be viewed by multiple people in non-desktop based and non-domestic environments. Its specifications shall include all of the following features: (a) unique identifier to enable addressing a specific display screen; (b) a function disabling unauthorised access to the display settings and displayed image; (c) network connection (encompassing a hard-wired or wireless interface) for controlling, monitoring or receiving the information to display from remote unicast or multicast but not broadcast sources; (d) designed to be installed hanging, mounted or fixed to a physical structure for viewing by multiple people and not placed on the market with a ground stand; (e) does not integrate a tuner to display broadcast signals;		N/A
(15)	'integrated', referring to a display which is part of another product as a functional component, means electronic displays that are not able to be operated independently from the product and that depend on it for providing their functions, including power;		N/A
(16)	'medical display' means an electronic display covered by the scope of: (a) Council Directive 93/42/EEC (10) concerning medical devices; or (b) Regulation (EU) 2017/745 of the European Parliament and of the Council (11) on medical devices; or (c) Council Directive 90/385/EEC (12) on the approximation of the laws of the Member States relating to active implantable medical devices; or (d) Directive 98/79/EC of the European Parliament and of the Council (13) on in vitro diagnostic medical devices; or (e) Regulation (EU) 2017/746 of the European Parliament and of the Council (14) on in vitro diagnostic medical devices;		N/A
(17)	'grade 1 monitor' means a monitor for high-level technical quality evaluation of images at		N/A

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	key points in a production or broadcast workflow, such as image capture, post- production, transmission and storage;		
(18)	'screen area' means the viewable area of the electronic display calculated by multiplying the maximum viewable image width by the maximum viewable image height along the surface of the panel (both flat or curved);		P
(19)	'virtual reality headset' means a head-wearable device that provides immersive virtual reality for the wearer by displaying stereoscopic images for each eye with head motion tracking functions;		N/A
(20)	'point of sale' means a location where electronic displays are displayed or offered for sale, hire or hire-purchase.		P
Article 3	Obligations of suppliers		P
1	Suppliers shall ensure that: (a) each electronic display is supplied with a label in printed form in the format and containing the information set out in Annex III; (b) the parameters of the product information sheet, as set out in Annex V, are entered into the product database; (c) if specifically requested by the dealer, the product information sheet shall be made available in printed form; (d) the content of the technical documentation, as set out in Annex VI, is entered into the product database; (e) any visual advertisement for a specific model of electronic display, including on the internet, contains the energy efficiency class and the range of efficiency classes available on the label in accordance with Annex VII and Annex VIII; (f) any technical promotional material concerning a specific model of electronic display, including on the internet, which describes its specific technical parameters, includes the energy efficiency class of that model and the range of efficiency classes available on the label, in accordance with Annex VII; (g) an electronic label, in the format and containing the information as set out in Annex III, shall be made available to dealers for each electronic display model; (h) an electronic product information sheet, as set out in Annex V, is made available to dealers for each electronic display model; (i) in addition to point (a), the label shall be printed on the packaging or stuck on it.		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
2	The energy efficiency class shall be based on the energy efficiency index calculated in accordance with Annex II		P
Article 4	Obligations of dealers		P
	Dealers shall ensure that: (a) each electronic display, at the point of sale, including at trade fairs, bears the label provided by suppliers in accordance with point 1(a) of Article 3 displayed on the front of the appliance or hung on it or placed in such a way as to be clearly visible and unequivocally associated to the specific model; provided that the electronic display is kept in on-mode when visible to customers for sale, the electronic label in accordance with point 1(g) of Article 3 displayed on the screen may replace the printed label; (b) where an electronic display model is displayed in a point of sale without any unit displayed out of the box, the label printed on the box or stuck on it shall be visible; (c) in the event of distance selling or telemarketing, the label and product information sheet are provided in accordance with Annexes VII and VIII; (d) any visual advertisement for a specific model of electronic display, including on the internet, contains the energy efficiency class and the range of efficiency classes available on the label, in accordance with Annex VII; (e) any technical promotional material concerning a specific model of electronic display, including technical promotional material on the internet, which describes its specific technical parameters, includes the energy efficiency class of that model and the range of efficiency classes available on the label, in accordance with Annex VII.		P
Article 5	Obligations of service provider on internet hosting platforms		P
	Where a hosting service provider, as referred to in Article 14 of Directive 2000/31/EC, allows the selling of electronic displays through its internet website, the service provider shall enable the showing of the electronic label and electronic product information sheet provided by the dealer on the display mechanism in accordance with the provisions of Annex VIII and shall inform the dealer of the obligation to display them.		P
Article 6	Measurement methods		P
	The information to be provided pursuant to Articles 3 and 4 shall be obtained by reliable, accurate and reproducible measurement and calculation methods, which take into account		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	the recognised state-of-the-art measurement and calculation methods set out in Annex IV.		
Article 7	Verification procedure for market surveillance purposes		--
	Member States shall apply the verification procedure laid down in Annex IX when performing the market surveillance checks referred to in paragraph 3 of Article 8 of Regulation (EU) 2017/1369.		--
Article 8	Review		--
	The Commission shall review this Regulation in the light of technological progress and present the results of this review, including, if appropriate, a draft revision proposal, to the Consultation Forum no later than 25 December 2022. The review shall in particular assess the following: (a) whether it is or is still appropriate to have separate energy categorisations for SDR and HDR; (b) the verification tolerances set out in Annex IX; (c) whether other electronic displays should be included in the scope; (d) the appropriateness of the balance of stringency between larger and smaller products; (e) whether it is feasible to develop appropriate notification methods for the energy consumption; (f) the possibility to address circular economy aspects. In addition, the Commission shall review the label to rescale it when the requirements of Article 11 of Regulation (EU) 2017/1369 are met.		--
Article 9	Repeal		--
	Delegated Regulation (EU) No 1062/2010 is repealed as of 1 March 2021.		--
Article 10	Transitional measures		--
	As from 25 December 2019 until 28 February 2021, the product fiche required under point 1(b) of Article 3 of Regulation (EU) No 1062/2010 may be made available through the product database instead of being provided in printed form with the product. In that case the supplier shall ensure that if, specifically requested by the dealer, the product fiche shall be made available in printed form.		--
Article	Entry into force and application		--

COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
11			
	This Regulation shall enter into force on the twentieth day following its publication in the Official Journal of the European Union. It shall apply from 1 March 2021. However, point 1(a) of Article 3 shall apply from 1 November 2020. This Regulation shall be binding in its entirety and directly applicable in all Member States. Done at Brussels, 11 March 2019		--
ANNEX I	Definitions for the purposes of the Annexes		P
	The following definitions shall apply		P
(1)	'energy efficiency index' (EEI) means an index number for the relative energy efficiency of an electronic display, as set out in point B of Annex II;		P
(2)	'High Dynamic Range (HDR)' means a method to increase the contrast ratio of the image of an electronic display by using metadata generated during the creation of the video material and that the display management circuitry interprets to produce a contrast ratio and colour rendering perceived by the human eye as more realistic than that achieved by non HDR-compatible displays;		N/A
(3)	'contrast ratio' means the difference between the peak brightness and black level in an image;	See Test Table 10	P
(4)	'luminance' means the photometric measure of the luminous intensity per unit area of light traveling in a given direction, expressed in units of candelas per square meter (cd/m^2). The term brightness is often used to 'subjectively' qualify the luminance of an electronic display;	See Test Table 9	P
(5)	'Automatic Brightness Control (ABC)' means the automatic mechanism that, when enabled, controls the brightness of an electronic display as a function of the ambient light level illuminating the front of the display;	No	N/A
(6)	'default', referring to a specific feature or setting, means the value of a specific feature as set at the factory and available when the customer uses the product for the first time and after performing a 'reset to factory settings' action, if allowed by the product;		P
(7)	'pixel (picture element)' means the area of the smallest element of a picture that can be distinguished from its neighbouring elements;	See Test Table 11	P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
(8)	'on mode' or 'active mode' means a condition in which the electronic display is connected to a power source, has been activated and is providing one or more of its display functions;	See Test Table 2	P
(9)	'forced menu' means a specific menu, appearing upon initial start-up of the electronic display or upon a reset to factory settings, offering a set of display settings, pre-defined by the supplier;		P
(10)	'normal configuration' means a display setting which is recommended to the end-user by the supplier from the initial set up menu or the factory setting that the electronic display has for the intended product use. It must deliver the optimal quality for the end user in the intended environment and for the intended use. The normal configuration is the condition in which the values for off, standby, networked standby and on mode are measured;		P
(11)	'brightest on mode configuration' means the configuration of the electronic display, pre-set by the supplier, which provides an acceptable picture with the highest measured luminance;	See Test Table 9	P
(12)	'shop configuration' means the configuration of the electronic display for use specifically in the context of demonstrating the electronic display, for example in high illumination (retail) conditions and not involving an auto power off if no user action or presence is detected;		P
(13)	'room presence sensor' or 'gesture detection sensor' or 'occupancy sensor' means a sensor monitoring and reacting to movements in the space around the product whose signal can trigger the switching to on mode. Lack of movement detection for a predetermined time can be used to switch into standby mode or networked standby mode;		N/A
(14)	'off mode' means a condition in which the electronic display is connected to the mains power source and is not providing any function: the following shall also be considered as off mode:	See Test Table 4	P
	(1) conditions providing only an indication of off mode condition; (2) conditions providing only functionalities intended to ensure electromagnetic compatibility pursuant to Directive 2014/30/EU of the European Parliament and of the Council ([1])		P
(15)	'standby mode' means a condition where the electronic display is connected to the mains or DC power source, depends on energy input from that source to work as intended and provides only the following functions, which may persist for an indefinite time: — reactivation function, or reactivation function and only an	See Test Table 5	P

COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	indication of enabled reactivation function; and/or — information or status display;		
(16)	'reactivation function' means a function that via a remote switch, a remote control unit, an internal sensor, a timer or, for networked displays in networked standby mode, the network, provides a switch from standby mode or networked standby mode to a mode, other than off-mode, providing additional functions;		N/A
(17)	'display mechanism' means any screen, including tactile screen or other visual technology used for displaying internet content to users;		P
(18)	'nested display' means visual interface where an image or data set is accessed by a mouse click, mouse roll-over or tactile screen expansion of another image or data set;		N/A
(19)	'tactile screen' means a screen responding to touch, such as that of a tablet computer, slate computer or a smartphone;		N/A
(20)	'alternative text' means text provided as an alternative to a graphic allowing information to be presented in nongraphical form where display devices cannot render the graphic or as an aid to accessibility such as input to voice synthesis applications;		N/A
(21)	'External Power Supply (EPS)' means a device as defined in Commission Regulation (EU) 2019/1782 (2);		P
(22)	'standardised EPS' means an external power supply designed to provide power to various devices and that is complies with a standard issued by an international standardization organization;		P
(23)	'Quick Response (QR) code' means a matrix barcode included on the energy label of a product model that links to that model's information in the public part of the product database;		P
(24)	'network' means a communication infrastructure with a topology of links and an architecture that includes the physical components, organisational principles and communication procedures and formats (protocols);		N/A
(25)	'network interface' (or 'network port') means a wired or wireless physical interface, providing network connection, through which functions of the electronic display can be remotely activated and data received or sent. Interfaces to input data such as video and audio signals, but not originating from a network source and using a network address, are not considered to be a network interface;		N/A
(26)	'network availability' means the capability of an electronic display to activate functions after a remotely initiated trigger has been detected by a network interface;		N/A

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Clause	Requirement -Test	Measuring result-Remark	Verdict
(27)	'networked display' means an electronic display that can connect to a network using one of its network interfaces, if enabled;		N/A
(28)	'networked standby mode' means a condition in which the electronic display is able to resume a function by way of a remotely initiated trigger from a network interface.		N/A
ANNEX II			P
A	Energy efficiency classes		P
	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.	EEI_{label}=0.08 Energy Efficiency Class:A (Up Screen) EEI_{label}=0.08 Energy Efficiency Class:A (Down Screen)	P
B	Energy Efficiency Index (EEI_{label})		P
	The Energy Efficiency Index (EEI_{label}) of the electronic display shall be calculated using the following equation:	No HDR Monitors corr$_I$ value:0 EEI_{label}=0.08 A=15.6285dm^2 $P_{measured}$=$P_{measuredSDR}$=	P

Table 1

Energy efficiency classes of electronic displays

Energy Efficiency Class	Energy Efficiency Index (EEI_{label})
A	$EEI_{label} < 0,30$
B	$0,30 \leq EEI_{label} < 0,40$
C	$0,40 \leq EEI_{label} < 0,50$
D	$0,50 \leq EEI_{label} < 0,60$
E	$0,60 \leq EEI_{label} < 0,75$
F	$0,75 \leq EEI_{label} < 0,90$
G	$0,90 \leq EEI_{label}$

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

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	where: A represents the viewing surface area in dm^2; Pmeasured is the measured power in on mode in Watts in the normal configuration and set as indicated in Table 2; $corr_I$ is a correction factor set as indicated in Table 3.	19.63W (Up Screen) No HDR Monitors $corr_I$ value:0 EEI_{label}=0.08 A=15.6285dm^2 $P_{measured}$=$P_{measuredSDR}$= 19.63W (Down Screen) (See Test Table 8)	
	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 standard-ised 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		N/A

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	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		N/A
	Electronic displays with automatic brightness control (ABC) shall qualify for a 10 % reduction in $P_{measured}$ if they meet all of the following requirements:	No	N/A
(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;		N/A
(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;		N/A
(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;		N/A
(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;		N/A
(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		N/A

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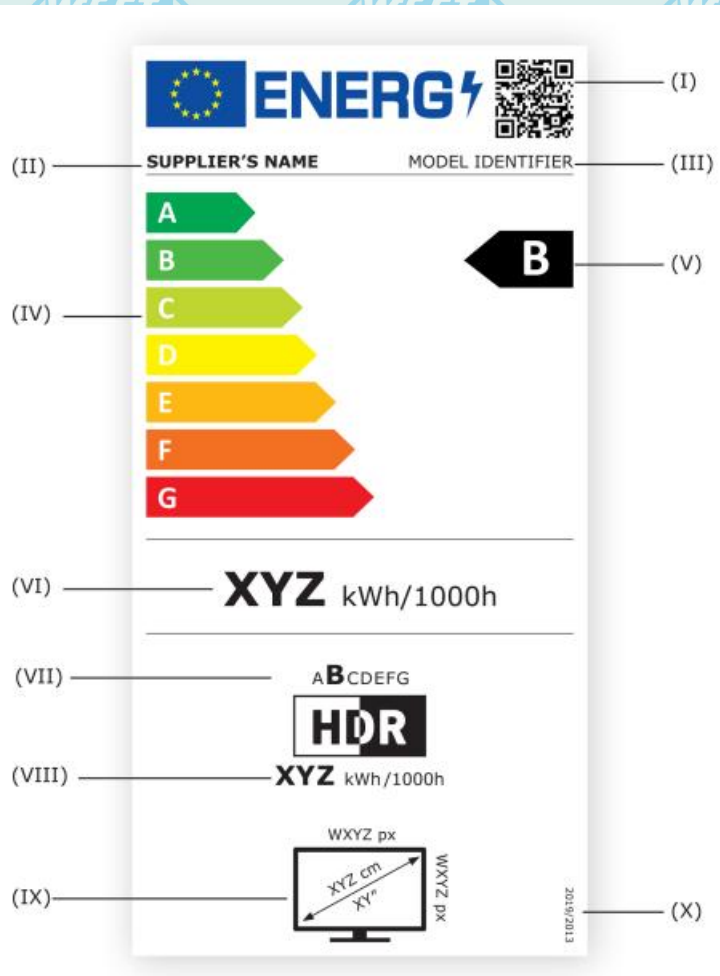
Clause	Requirement -Test	Measuring result-Remark	Verdict
	70 % of the screen luminance measured at 100 lux.		
ANNEX III	Label for electronic displays		P
1	LABEL		P
			P
	The following information shall be included in the label for electronic displays: I. QR code; II. supplier's name or trade mark; III. supplier's model identifier; IV. scale of energy efficiency classes from A to G;		

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	V. the energy efficiency class determined in accordance with point B of Annex II when using PmeasuredSDR; VI. on mode energy consumption in kWh per 1 000 h, when playing SDR content, rounded to the nearest integer; VII. the energy efficiency class determined in accordance with point B of Annex II when using PmeasuredHDR; VIII. the on mode energy consumption in kWh per 1 000 h, when playing HDR content, rounded to the nearest integer; IX. visible screen diagonal in centimetres and inches and horizontal and vertical resolution in pixels; X. the number of this Regulation, that is '2019/2013'.		
2	LABEL DESIGN		P

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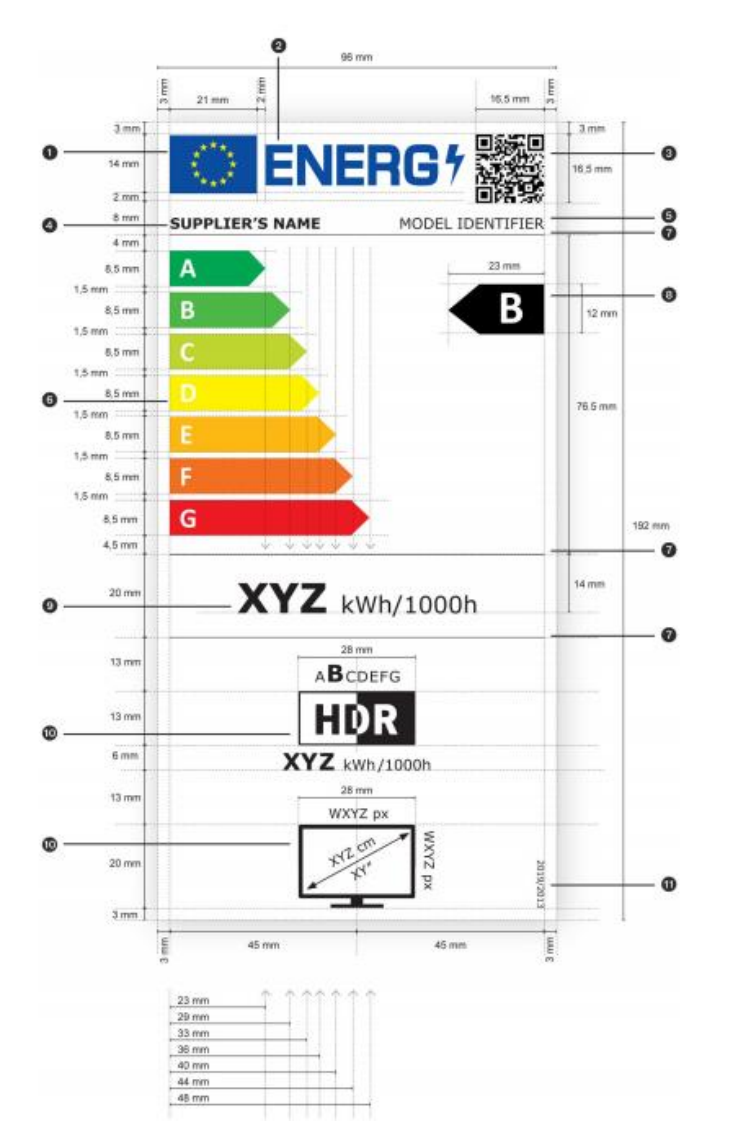
Clause	Requirement -Test	Measuring result-Remark	Verdict
			P



Whereby:

(a) The label shall be at least 96 mm wide and 192 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above. For electronic displays with a size of the diagonal of the visible area less than 127 cm (50 inches), the label can be printed scaled down, but not less than 60 % of its normal size; its

COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	content shall nevertheless be proportionate to the specifications above and the QR code still readable by a commonly available QR reader, such as those integrated in a smartphone. (b) The background of the label shall be 100 % white. (c) The typefaces shall be Verdana and Calibri. (d) The dimensions and specifications of the elements constituting the label shall be as indicated in the label design. (e) Colours shall be CMYK — cyan, magenta, yellow and black, following this example: 0,70,100,0: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black. (f) The label shall fulfil all the following requirements (numbers refer to the figure above): the colours of the EU logo shall be as follows: — the background: 100,80,0,0; — the stars: 0,0,100,0; the colour of the energy logo shall be: 100,80,0,0; the QR code shall be 100 % black; the supplier's name shall be 100 % black and in Verdana Bold 9 pt; the model identifier shall be 100 % black and in Verdana Regular 9 pt; the A to G scale shall be as follows: — the letters of the energy efficiency scale shall be 100 % white and in Calibri Bold 19 pt; the letters shall be centred on an axis at 4,5 mm from the left side of the arrows; — the colours of the A to G scale arrows shall be as follows: — A-class: 100,0,100,0; — B-class: 70,0,100,0; — C-class: 30,0,100,0; — D-class: 0,0,100,0; — E-class: 0,30,100,0; — F-class: 0,70,100,0; — G-class: 0,100,100,0; the internal dividers shall have a weight of 0,5 pt and the colour shall be 100 % black; the letter of the energy efficiency class shall be 100 % white and in Calibri Bold 33 pt. The energy efficiency class arrow and the corresponding arrow in the A to G scale shall be positioned in such a way that their tips are aligned. The letter in the energy efficiency class arrow shall be positioned in the centre of the rectangular part of the arrow which shall be		

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	100 % black; the energy consumption value in SDR shall be in Verdana Bold 28 pt; 'kWh/1 000h' shall be in Verdana Regular 16 pt. The text shall be centred and in 100 % black; the HDR and the screen pictograms shall be 100 % black and as shown as in the label design; the texts (numbers and units) shall be 100 % black, and as follows: — above the HDR pictogram, the letters of energy efficiency classes (A to G) shall be centred, with the letter of the applicable energy efficiency class in Verdana Bold 16 pt and the other letters in Verdana Regular 10 pt; under the HDR pictogram, the energy consumption value in HDR shall be centred, in Verdana Bold 16 pt with 'kWh/1 000h' in Verdana Regular 10 pt; — the texts of the screen pictogram shall be in Verdana Regular 9 pt and placed as in the label design; the number of the regulation shall be 100 % black and in Verdana Regular 6 pt.		
ANNEX IV	Measurement methods and calculations		P
	For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards, the reference numbers of which have been published in the Official Journal of the European Union or using other reliable, accurate and reproducible methods which take into account the generally recognised state-of-the-art. They shall be in line with the provisions set out in this Annex. Measurements and calculations shall meet the technical definitions, conditions, equations and parameters set out in this Annex. Electronic displays which can operate in both 2D and 3D modes shall be tested when they operate in 2D mode. An electronic display which is split into two or more physically separate units, but placed on the market in a single package, shall, for checking the conformity with the requirements of this Annex, be treated as a single electronic display. Where multiple electronic displays that can be placed on the market separately are combined in a single system, the individual electronic displays shall be treated as single displays.		P
1	MEASUREMENTS OF ON MODE POWER DEMAND		P
	Measurements of the on mode power demand shall fulfil all of the following general		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	conditions: (a) electronic displays shall be measured in the normal configuration; (b) measurements shall be made at an ambient temperature of 23 °C +/- 5 °C; (c) measurements shall be made using a dynamic broadcast video signal test loops representing typical broadcast content for electronic displays in standard dynamic range (SDR). For the HDR measurement the electronic display must automatically and correctly respond to the HDR metadata in the test loop. The measurement shall be the average power consumed over 10 consecutive minutes; (d) measurements shall be made after the electronic display has been in the off-mode or, if an off-mode is not available, in standby mode for a minimum of 1 hour immediately followed by a minimum of 1 hour in the on mode and shall be completed before a maximum of 3 hours in on-mode. The relevant video signal shall be displayed during the entire on mode duration. For electronic displays that are known to stabilise within 1 hour, these durations may be reduced if the resulting measurement can be shown to be within 2 % of the results that would otherwise be achieved using the durations described here; (e) where ABC is available, measurements shall be made with it switched off. If ABC cannot be switched off, then the measurements shall be performed in an ambient light condition of 100 lux measured at the ABC sensor.		
2	MEASUREMENTS OF PEAK WHITE LUMINANCE		P
	Measurements of the peak white luminance shall be made: (a) with a luminance meter, detecting that portion of the screen exhibiting a full (100 %) white image, which is part of a ‘full screen test’ pattern not exceeding the average picture level (APL) point where any power limiting or other irregularity occurs; (b) without disturbing the luminance meter’s detection point on the electronic display whilst switching between the normal configuration and the brightest on mode configuration.		P
ANNEX V	Product information sheet		P
	Pursuant to point 1(b) of Article 3, the supplier shall enter into the product database the information as set out in Table 4. The product manual or other literature provided with the product shall clearly indicate the link to the model in the product database as a human-readable Uniform Resource Locator (URL) or as QR-code or provide the product registration number.		P

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Clause	Requirement -Test	Measuring result-Remark	Verdict

Table 4 — P

Information, order and format of the product information sheet

	Information	Value and precision	Unit	Notes
1.	Supplier's name or trade mark	TEXT		
2.	Supplier's model identifier	TEXT		
3.	Energy efficiency class for standard Dynamic Range (SDR)	[A/B/C/D/E /F/G]		If the product database automatically generates the definitive content of this cell, the supplier shall not enter this data.
4.	On mode power demand for Standard Dynamic Range (SDR)	X,X	W	Rounded to the first decimal place for power values below 100 W, and rounded to the first integer for power values from 100 W.
5.	Energy efficiency class (HDR)	[A/B/C/D/E /F/G] or n.a.		If the product database automatically generates the definitive con tent of this cell, the supplier shall not enter this data. Value set to 'n.a.' (not applicable) if HDR not implemented.

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Clause	Requirement -Test				Measuring result-Remark	Verdict
	6.	On mode power demand in High Dynamic Range (HDR) mode	X,X	W	Rounded to the first decimal place for power values below 100 W, and rounded to the first integer for power values from 100 W (value set to 0 (zero) if 'not applicable').	
	7.	Off mode, power demand	X,X	W		
	8.	Standby mode power demand	X,X	W		
	9.	Networked standby mode power demand	X,X	W		
	10.	Electronic display category	[television/ monitor/ signage/other]		Select one.	
	11.	Size ratio	X : Y	integer	E.g. 16:9, 21:9, etc.	
	12.	Screen resolution (pixels)	X x Y	pixels	Horizontal and vertical pixels	
	13.	Screen diagonal	X,X	cm	In cm according to the International System of Units (SI), rounded to the nearest decimal place.	
	14.	Screen diagonal	X	inches	Optional, in inches	

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Clause	Requirement -Test			Measuring result-Remark	Verdict
				rounded to the nearest integer place.	
	15.	Visible screen area	X,X	cm^2	Rounded to the one decimal place
	16.	Panel technology used	TEXT		E.g. LCD/LED LCD/QLED LCD/ OLED/MicroLED/QDLED/SED/FED/ EPD, etc.
	17.	Automatic Brightness Control (ABC) available	[YES/NO]		Must be activated as default (if YES).
	18.	Voice recognition sensor available	[YES/NO]		
	19.	Room presence sensor available	[YES/NO]		Must be activated as default (if YES)
	20.	Image refresh frequency rate	X	Hz	
	21.	Minimum guaranteed availability of soft ware and firmware updates (until):	GG MM AAAA	date	As from Annex II E, point 1 of Commission Regulation (EU) 2019/2021 (1).
	22.	Minimum guaranteed availability of spare parts (until):	GG MM AAAA	date	As from Annex II D, point 5 of Regulation (EU) 2019/2021.
	23.	Minimum guaranteed product support	GG MM AAAA	date	

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Clause	Requirement -Test				Measuring result-Remark	Verdict
	(until):					
	24.	Power supply type:		Internal/External/ Standardised external		Select one.
	i	External standardised power supply (included in the product box)	Standard name	TEXT		
			Input voltage	X	V	
			Output voltage	X	V	
	ii	External standardised suitable power supply (if not included in the product box)	Standard name	TEXT		Mandatory only if EPS not included in the box, non-mandatory otherwise.
			Required output voltage	X,X	V	Mandatory only if EPS not included in the box, non-mandatory otherwise.
			Required delivered current	X,X	A	Mandatory only if EPS not included in the box, non-mandatory otherwise.

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Clause	Requirement -Test	Measuring result-Remark	Verdict
	Required current frequency: X Hz — Mandatory only if EPS not included in the box, non-mandatory otherwise.		
ANNEX VI	Technical documentation		P
	The technical documentation referred to in point 1(d) of Article 3 shall include:		P
(1)	identification data (general description of the model): (a) trademark and model identifier; (b) supplier's name, address, registered trade name;		P
(2)	references to the harmonised standards applied, other measurement standards and specifications used in measuring the technical parameters and calculations performed;		P
(3)	specific precautions to be taken when the model is assembled, installed and tested;		P
(4)	a list of all equivalent models, including model identifiers;		P
(5)	measured technical parameters of the model and calculations performed with the measured parameters as listed in Table 5;		P

Table 5

Measured technical parameters

		Value and precision	Unit	Notes
	General			
1.	Ambient temperature	XX,XX	°C	
2.	Test voltage	X	V	
3.	Frequency	X,X	Hz	
4.	Total harmonic distortion (THD) of the electricity supply system	X	%	
	For On-mode			
5.	Peak white luminance of the brightest on	X	cd/m^2	

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Clause	Requirement -Test			Measuring result-Remark	Verdict
		mode configuration			
	6.	Peak white luminance of the normal configuration	X	cd/m^2	
	7.	Peak white luminance ratio (calculated)	X,X	%	Value row 6 above divided by value row 5 above times 100
		For APD			
	8.	Duration of the on mode condition, before the electronic display reaches automatically standby, or off mode, or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode.	mm:ss		
		For televisions: the measured value of the time before the television automatically reaches standby, or off mode, or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby-mode following the last user interaction;	mm:ss		
		For televisions equipped with room presence sensor: the measured value of the time before the television auto matically reaches standby, or off-mode, or another condition which does not exceed the applicable power con sumption requirements for off mode and/or standby mode when no presence is detected;	mm:ss		

COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019						
Clause	Requirement -Test				Measuring result-Remark	Verdict
		Other electronic displays than televisions and broadcast displays: The measured value of the time before the electronic display automatically reaches standby, or off mode, or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when no input is detected;	mm:ss			
		For ABC			If available and activated by default (as from Annex V, Table 4)	
	9.	Average on mode power demand of the electronic display at an ambient light intensity, measured at the ABC sensor of the electronic display, of 100 lux and 12 lux.	X,X	W		
	10.	Percentage of power reduction due to ABC action between the 100 lux and 12 lux ambient light conditions.	X,X	%		
	11.	Display peak white luminance at each of the following ambient light intensities measured at the ABC sensor of the electronic display, 100 lux, 60 lux, 35 lux, 12 lux.	x	cd/m^2		
		Measured on mode power at 100 lux ambient light at the ABC sensor	X,X	W		
		Measured on mode power at 12 lux ambient light at the ABC sensor	X,X	W		

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Clause	Requirement -Test				Measuring result-Remark	Verdict
		The measured screen luminance at 60 lux ambient light at the ABC sensor	X	cd/m^2		
		The measured screen luminance at 35 lux ambient at the ABC sensor	X	cd/m^2		
		The measured screen luminance at 12 lux ambient light at the ABC sensor	X	cd/m^2		
(6)	Additional information requirements:					P
(a)	input terminal for the audio and video test signals used for testing;					P
(b)	information and documentation on the instrumentation, set-up and circuits used for electrical testing;					P
(c)	any other testing condition not described or determined in point (b);					P
(d)	for on mode: (i) the characteristics of the dynamic broadcast-content video signal representing typical broadcast TV content; for the HDR dynamic broadcast content video signal the electronic display must be automatically switched to HDR mode by the HDR metadata of that signal; (ii) the sequence of steps for achieving a stable condition with respect to power demand level; and (iii) the picture settings used for the brightest peak white luminance measurement and the test pattern for the video signal used for the measurement.				See Test Table 2	P
(e)	For standby and off mode: (i) the measurement method used; (ii) description of how the mode was selected or programmed including any enhanced reactivation functions; and (iii) sequence of events to reach the condition where the electronic display automatically changes mode.				See Test Table 4, See Test Table 5	P
(f)	For electronic displays with a designated computer signal interface: (i) confirmation that the electronic display prioritises the computer display power management protocols set out in point 6.2.3 of Annex II of Commission Regulation (EU) No 617/2013 (1). Any deviation from the protocols should be reported;					P

COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
(g)	For the networked electronic displays only: (i) number and type of network interfaces and, except for wireless network interfaces, their position in the electronic display; (ii) whether the electronic display qualifies as electronic display with HiNA functionality; if no information is provided the electronic display is considered not to be HiNA display or display with HiNA functionality; and (iii) information whether networked electronic display provides functionality allowing the power management function and/or the end-user to switch the electronic display being in a condition providing networked standby into standby mode, or off mode or another condition which does not exceed the applicable power demand requirements for off mode and/or standby mode including enhanced reactivation function power allowance where applicable.		N/A
(h)	For each type of network port: (i) the default time (mm:ss) after which the power management function, switches the display into a condition providing networked standby; and (ii) the trigger to be used to reactivate the electronic display		N/A
(7)	where the information included in the technical documentation file for a particular electronic display model has been obtained: (a) from a model that has the same technical characteristics relevant for the technical information to be provided but is produced by a different manufacturer or (b) by calculation on the basis of design or by extrapolation from another model of the same or of a different supplier, or both; the technical documentation shall include, as appropriate, the details of such calculation, the assessment undertaken by suppliers to verify the accuracy of the calculation and, where appropriate, the declaration of identity between the models of different suppliers; and		P
(8)	the contact details of the person empowered to bind the supplier, if not included in the technical information uploaded into the database, shall be made available, on request, to market surveillance authorities or to the Commission for carrying out their tasks under this Regulation.		P
ANNEX VII	Information to be provided in visual advertisements, in technical promotional material in distance selling and in telemarketing, except distance selling on the internet		P
1.	In visual advertisements, for the purposes of ensuring conformity with the requirements laid down in point 1(e) of Article 3 and point (d) of Article 4, the energy efficiency class and the range of efficiency classes available on the label shall be shown as set out in point 4 of this		P

COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	Annex.		
2.	In technical promotional material, for the purposes of ensuring conformity with the requirements laid down in point 1(f) of Article 3 and point (e) Article 4 the energy class and the range of efficiency classes available on the label shall be shown as set out in point 4 of this Annex.		P
3.	Any paper-based distance selling must show the energy class and the range of efficiency classes available on the label as set out in point 4 of this Annex.		P
4.	The energy efficiency class and the range of energy efficiency classes shall be shown, as indicated in Figure 1, with: (a) an arrow, containing the letter of the energy efficiency class in 100 % white, Calibri Bold and in a font size at least equivalent to that of the price, when the price is shown; (b) the colour of the arrow matching the colour of the energy efficiency class; (c) the range of available energy efficiency classes in 100 % black; and, (d) the size shall be such that the arrow is clearly visible and legible. The letter in the energy efficiency class arrow shall be positioned in the centre of the rectangular part of the arrow, with a border of 0,5 pt in 100 % black placed around the arrow and the letter of the energy efficiency class. By way of derogation, if the visual advertisement, technical promotional material or paper-based distance selling is printed in monochrome, the arrow can be in monochrome in that visual advertisement, technical promotional material or paper-based distance selling. Figure 1 Coloured/monochrome left/right arrow, with range of energy efficiency classes indicated 		P
5.	Telemarketing-based distance selling must specifically inform the customer of the energy efficiency class of the product and of the range of energy efficiency classes available on the label, and that the customer can access the label and the product information sheet through the product database website, or by requesting a printed copy.		P
6.	For all the situations mentioned in points 1 to 3 and 5, it must be possible for the customer to obtain, on request, a printed copy of the label and the product information sheet.		P
ANNEX VIII	Information to be provided in the case of distance selling through the internet		P

COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
1.	The appropriate label made available by suppliers in accordance with point 1(g) of Article 3 shall be shown on the display mechanism in proximity to the price of the product. The size shall be such that the label is clearly visible and legible and shall be proportionate to the size specified in point 2(a) of Annex III. The label may be displayed using a nested display, in which case the image used for accessing the label shall comply with the specifications laid down in point 3 of this Annex. If a nested display is applied, the label shall appear on the first mouse click, mouse rollover or tactile screen expansion on the image		P
2.	The image used for accessing the label in the case of nested display, as indicated in Figure 2, shall: (a) be an arrow in the colour corresponding to the energy efficiency class of the product on the label; (b) indicate the energy efficiency class of the product on the arrow in 100 % white, Calibri Bold and in a font size equivalent to that of the price; (c) have the range of available energy efficiency classes in 100 % black; and, (d) have one of the following two formats, and its size shall be such that the arrow is clearly visible and legible. The letter in the energy efficiency class arrow shall be positioned in the centre of the rectangular part of the arrow, with a visible border in 100 % black placed around the arrow and the letter of the energy efficiency class: Figure 2 Coloured left/right arrow, with range of energy efficiency classes indicated 		P
3.	In the case of nested display, the sequence of display of the label shall be as follows: (a) the image referred to in point 2 of this Annex shall be shown on the display mechanism in proximity to the price of the product; (b) the image shall link to the label set out in Annex III; (c) the label shall be displayed after a mouse click, mouse roll-over or tactile screen expansion on the image; (d) the label shall be displayed by pop up, new tab, new page or inset screen display;		N/A

COMMISSION DELEGATED REGULATION (EU) 2019/2013 of 11 March 2019			
Clause	Requirement -Test	Measuring result-Remark	Verdict
	(e) for magnification of the label on tactile screens, the device conventions for tactile magnification shall apply; (f) the label shall cease to be displayed by means of a close option or other standard closing mechanism; and (g) the alternative text for the graphic, to be displayed on failure to display the label, shall be the energy efficiency class of the product in a font size equivalent to that of the price.		
4.	The appropriate product information sheet made available by suppliers in accordance with point 1(h) of Article 3 shall be shown on the display mechanism in proximity to the price of the product. The size shall be such that the product information sheet is clearly visible and legible. The product information sheet may be displayed using a nested display or by referring to the product database in which case the link used for accessing the product information sheet shall clearly and legibly indicate 'Product information sheet'. If a nested display is used, the product information sheet shall appear on the first mouse click, mouse roll-over or tactile screen expansion on the link.		N/A

EN 62087-3: 2016			
Clause	Requirement -Test	Measuring result-Remark	Verdict
4	Specification of operating modes and functions		P
4.1	Table of operating modes and functions		P
4.2	Configurations and picture settings		P
4.2.1	Conceptual framework		P
4.2.2	Selection of home configuration		P
4.2.3	Selection of retail configuration		P
5	Measurement conditions		P
5.1	General		P
5.2	Power source	230V(±1%), 50Hz(±1%)	P
5.3	Environmental conditions	23.0°C(±5°C)	P
5.4	Ambient light conditions	No Need	N/A
5.5	Measuring equipment		P
5.5.1	Power measuring instrument		P
5.5.2	Luminance measuring device		P
5.5.3	Illuminance measuring instrument		N/A
5.6	Signal generation		P
5.6.1	Equipment		P
5.6.2	Interfaces		P
5.6.3	Accuracy		P
5.6.4	Light source for specific illuminance levels		N/A
5.6.5	Light source for disabling the ABC feature		N/A
5.6.6	Networking equipment		N/A
6	Procedures		P
6.1	Order of activities		P

EN 62087-3: 2016			
Clause	Requirement -Test	Measuring result-Remark	Verdict
6.2	Preparation		P
6.2.1	Measuring plan		P
6.2.2	Power source voltage and frequency	230V(±1%),50Hz(±1 %)	P
6.2.3	Input terminals	Display Port or HDMI	P
6.2.4	Video signal, On mode power consumption procedure	Used dynamic broadcast-content video signal	P
6.2.5	Video signal, peak luminance ratio determination	Three bar signal	P
6.2.6	Video format	Two screens are all 1920(H) ×1080 (V), 60Hz	P
6.2.7	Automatic brightness control capabilities	No	N/A
6.2.8	Automatic brightness control levels		N/A
6.2.9	Network connection capabilities	Wi-Fi (IEEE 802.1 1) and Ethernet (IEEE 802.3)	N/A
6.3	Initial activities		P
6.3.1	Order of initial activities		P
6.3.2	Cool down	Off mode for one hour	P
6.3.3	Main batteries	No main batteries	N/A
6.3.4	Plug-in module	No plug-in module during the test	N/A
6.3.5	Installation		P
6.3.6	Application of input signals		P
6.3.7	Luminance measuring device setup		P

EN 62087-3: 2016			
Clause	Requirement -Test	Measuring result-Remark	Verdict
6.3.8	Light source setup		N/A
6.3.9	Power on	See Test Table 2	P
6.3.10	TV settings	Think of the Monitor as a TV-like device	P
6.3.10.1	Default settings		P
6.3.10.2	Input source selection		P
6.3.10.3	Satellite feature		N/A
6.3.10.4	Additional functions		P
6.3.10.5	Special functions		P
6.3.10.6	Video size, aspect ratio, and resolution	The Video size meet the Monitor's aspect ratio, and resolution The aspect ratio, and resolution see Test Table 11	P
6.3.10.7	Sound level adjustments		P
6.3.10.8	Networking		N/A
6.4	Determination of power consumption, On mode	See Test Table 2	P
6.4.1	Order of activities		P
6.4.2	Stabilization		P
6.4.3	Television sets without automatic brightness control enabled by default	Think of the Monitor as a TV-like device, Without ABC	P
6.4.4	Television sets with automatic brightness control enabled by default	Think of the Monitor as a TV-like device, Without ABC	N/A
6.4.5	Power measurement		P

EN 62087-3: 2016			
Clause	Requirement -Test	Measuring result-Remark	Verdict
6.4.5.1	General	See Test Table 2, Without ABC	P
6.4.5.2	Measurements using static video signals		N/A
6.4.5.3	Measurements using the dynamic broadcast-content video signal		P
6.4.5.4	Measurements using the Internet-content video signal		N/A
6.5	Determination of peak luminance ratio and power factor	See Test Table 9	P
6.5.1	General		P
6.5.1.1	Introductory remark		P
6.5.1.2	Automatic brightness control		N/A
6.5.1.3	Stabilization		N/A
6.5.1.4	Normal measurement		P
6.5.1.5	Quick measurement		P
6.5.2	Activities for peak luminance ratio and power factor determination		P
6.5.2.1	Order of activities		P
6.5.2.2	Peak luminance, default picture setting		P
6.5.2.3	Determination of power factor		P
6.5.2.4	Determination of brightest selectable preset picture setting		P
6.5.2.5	Peak luminance, brightest selectable preset picture setting		P
6.5.2.6	Peak luminance, retail picture setting	Lretail=0	N/A
6.5.2.7	Peak luminance, overall brightest preset picture setting		N/A
6.5.2.8	Peak luminance ratio		P
6.5.2.9	Return to default conditions		N/A
6.6	Determination of power consumption, Partial On mode	See Test Table 5	P
6.6.1	General		P

EN 62087-3: 2016			
Clause	Requirement -Test	Measuring result-Remark	Verdict
6.6.2	Order of activities		P
6.6.3	AV inputs		P
6.6.4	Standby-passive		P
6.6.5	Standby-active, low		P
6.6.5.1	Networking		N/A
6.6.5.2	Availability		P
6.6.5.3	Measurement		P
6.7	Determination of power consumption, Off mode	See Test Table 4	P
6.7.1	Connections and networking		P
6.7.2	Availability		P
6.7.3	Measurement		P
Annex A	Considerations for On mode television set power measurements		N/A
A.1	General		N/A
A.2	Illuminance levels for automatic brightness control		N/A
A.3	Weighting of automatic brightness control levels		N/A
A.4	Calculating On mode power consumption		N/A
A.5	Picture level adjustments		N/A

Table 1:Test Parameters	
Ambient temperature (°C) …….....:	23.2°C
Air speed close to the EUT……....:	0.1m/s
Relative humidity……....:	52%
Test voltage (s)…….....:	230V, 50Hz;
Frequencies (Hz)…….....:	See below
Input Signal……....:	three bar video signal and dynamic broadcast-content video signal
Total Harmonic distortion of the electricity supply system…….....:	1.2%

Table 2: On mode power demand for Standard Dynamic Range (SDR) Power Consumption	P
Model No.	116-1001P01(Up Screen)
Test voltage/ Frequency	230Vac 50Hz
The input terminal for the audio and video test signals	Display Port or HDMI,dynamic broadcast-content video signal,Three bar signal
Rms input voltage (V)	230.00
Input supply frequency (Hz)	50.000
True power factor	0.4415
luminance(cd/m^2)	311.3
power consumption(W)	19.6
Model No.	116-1001P01(Down Screen)
Test voltage/ Frequency	230Vac 50Hz
The input terminal for the audio and video test signals	Display Port or HDMI,dynamic broadcast-content video signal,Three bar signal
Rms input voltage (V)	230.00
Input supply frequency (Hz)	50.000
True power factor	0.4415
luminance(cd/m^2)	311.2
power consumption(W)	19.6

Table 3: On mode power demand for High Dynamic Range (HDR) mode Power Consumption	N/A
Model No.	--
Test voltage/ Frequency	--
The input terminal for the audio and video test signals	--
Rms input voltage (V)	--
Input supply frequency (Hz)	--
True power factor	--
luminance(cd/m^2)	--
power consumption(W)	--

Table 4: Off-mode Power Consumption	P
Model No.	116-1001P01(Two Screens)
Test voltage/ Frequency	230Vac 50Hz
Rms input voltage (V)	230.00
Input supply frequency (Hz)	50.000
power consumption(W)	0

Table 5: Standby-mode(Standby-Passive)Power Consumption (Partial On mode)	P
Model No.	116-1001P01(Two Screens)
Test voltage/ Frequency	230Vac 50Hz
Rms input voltage (V)	230.00
Input supply frequency (Hz)	50.000
power consumption(W)	0.42

Table 6: Networked Standby-mode(Standby-active, low)Power Consumption (Partial On mode)	N/A
Model No.	
Test voltage/ Frequency	
Rms input voltage (V)	
Input supply frequency (Hz)	
power consumption(W)	

Table 7:Networked Standby-mode(Standby-active, high)Power Consumption (Partial On	N/A

mode)	
Model No.	
Test voltage/ Frequency	
Rms input voltage (V)	
Input supply frequency (Hz)	
power consumption(W)	

Table 8	**Power measurement**									
Model : 116-1001P01										
Test	U_{IN} (V)	F (Hz)	I(mA)	Wh	Time (minutes)	Lumi. (cd/m^2)	Power Factor	Ambient light to sensor(lux)	P(W)	Remarks
On Mode										
(Up Screen)	230.00	50	--	3.272	10	311.3	0.4415	--	19.63	
(Down Screen)	230.00	50	--	3.272	10	311.2	0.4415	--	19.63	
Off Mode(Two Screens)										
1	230.00	50	0	0	10	--	0	--	0	
Partial On mode(Two Screens)										
Standby-mode(Standby-Passive)(Two Screens)										
1	230.00	50	--	0.070	10	--	--	--	0.421	
Networked Standby-mode(Standby-active, low)										
--	--	--	--	--	--	--	--	--	--	--
Networked Standby-mode(Standby-active, high)										
--	--	--	--	--	--	--	--	--	--	--
Supplementary information:										

Table 9: Peak Luminance ratio	P
Model No.	116-1001P01 (Up Screen)
Test voltage/ Frequency	230Vac 50Hz
Test Item	See below
Rms input voltage (V)	230.05
Input supply frequency (Hz)	50.000
True power factor	0.4415

Televisions without forced menu:	--
The peak luminance of the on-mode condition of the television (cd/m^2)	--
The peak luminance of the brightest on mode condition provided by the television (cd/m ^{2})	--
Peak Luminance ratio (%)	--
Televisions with forced menu:	--
The peak luminance of the on-mode condition of the television (cd/m^2)	276.2
The peak luminance of the brightest on mode condition provided by the television (cd/m^2)	311.3
Peak Luminance ratio (%)	88.8
Limit for peak Luminance ratio (%)	>65
Model No.	116-1001P01 (Down Screen)
Test voltage/ Frequency	230Vac 50Hz
Test Item	See below
Rms input voltage (V)	230.05
Input supply frequency (Hz)	50.000
True power factor	0.4415
Televisions without forced menu:	--
The peak luminance of the on-mode condition of the television (cd/m^2)	--
The peak luminance of the brightest on mode condition provided by the television (cd/m ^{2})	--
Peak Luminance ratio (%)	--
Televisions with forced menu:	--
The peak luminance of the on-mode condition of the television (cd/m^2)	276.1
The peak luminance of the brightest on mode condition provided by the television (cd/m^2)	311.2
Peak Luminance ratio (%)	88.7

Limit for peak Luminance ratio (%)	>65

Table 10: contrast ratio	P
Model No.	116-1001P01 (Up Screen)
Test voltage/ Frequency	230Vac 50Hz
Test Item	See below
Rms input voltage (V)	230.05
Input supply frequency (Hz)	50.000
Input Signal	three bar video signal
peak brightness (cd/m ^{2})	311.3
black level(cd/m ^{2})	4.55
contrast ratio (%)	1.46
Model No.	116-1001P01 (Down Screen)
Test voltage/ Frequency	230Vac 50Hz
Test Item	See below
Rms input voltage (V)	230.05
Input supply frequency (Hz)	50.000
Input Signal	three bar video signal
peak brightness (cd/m ^{2})	311.2
black level(cd/m ^{2})	4.53
contrast ratio (%)	1.46

Table 11:Information(The Two Screen are same)			
Brand Name	GEMINOS	Screen Resolutions (pixels)	1920(H) ×1080 (V)=2073600
Model	116-1001P01	Automatic Brightness Control?	No
Electronic display category	Monitors	Screen Size (inches)	20.75 x 11.67
Refresh rate	60Hz	Screen Size (cm)	52.71 x 29.65
HDR	No	Screen Size (dm)	5.271 x 2.965
Voltage Tested	230V 50Hz	Screen Diagonal (inch)	23.8
Luminance	Max. luminance:311.3cd/m^2 (230V 50Hz)(Up Screen)	Screen Diagonal	60.45

	Max. luminance:311.2cd/m^2 (230V 50Hz) (Down Screen)	(cm)	
Size ratio	16:9	Room presence sensor available	No
Panel technology used	LCD	Screen Area (sq. inch)	242.15
Voice recognition sensor available	No	Screen Area (sq. dm)	15.6285
Network connection capabilities	No	Screen Area (sq. cm)	1562.85
touch functionality	No	Power Factor (On mode)	0.4415
Power supply type(Internal/External/ Standardised external):	External Standardised		
External standardised power supply (included in the product box)	BSY120T2405003 D	Standard name	COMMISSION REGULATION (EU) 2019/1782 of 1 October 2019 laying down ecodesign requirements for external power supplies pursuant to Directive 2009/125/EC of the European Parliament and of the Council and repealing Commission Regulation (EC) No 278/2009 EN 50563:2011+A1:2013 , External a.c. - d.c. and a.c. - a.c. power supplies – Determination of no-load power and average

			efficiency of active modes
Input voltage	100-240V~ 50/60Hz	Output voltage	24.0V---
External standardised suitable power supply (if not included in the product box)	--	Standard name	--
Required output Voltage	--	Required delivered current	--

Table 12: Calculation for energy efficiency	P
Model No.	116-1001P01(Up Screen)
On mode power demand for Standard Dynamic Range (SDR)	19.6W
Calculation of 1000h on-mode energy for Standard Dynamic Range (SDR)	19.6KWh
Calculation of EEI for Standard Dynamic Range (SDR)	0.08
Energy efficiency class for standard Dynamic Range (SDR)	A
On mode power demand for High Dynamic Range (HDR) mode	N/A
Calculation of annual on-mode energy for High Dynamic Range (HDR) mode	N/A
Calculation of EEI for for High Dynamic Range (HDR) mode	N/A
Energy efficiency class (HDR) for High Dynamic Range (HDR) mode	N/A
Screen Diagonal (inch)	23.8
Screen Diagonal (cm)	60.45
Electronic display category	Monitors
Panel technology used	LCD
Screen Resolutions (pixels)	1920(H) ×1080 (V)
Automatic Brightness Control?	No

Voice recognition sensor available	No
Room presence sensor available	No
Model No.	116-1001P01(Down Screen)
On mode power demand for Standard Dynamic Range (SDR)	19.6W
Calculation of 1000h on-mode energy for Standard Dynamic Range (SDR)	19.6KWh
Calculation of EEI for Standard Dynamic Range (SDR)	0.08
Energy efficiency class for standard Dynamic Range (SDR)	A
On mode power demand for High Dynamic Range (HDR) mode	N/A
Calculation of annual on-mode energy for High Dynamic Range (HDR) mode	N/A
Calculation of EEI for for High Dynamic Range (HDR) mode	N/A
Energy efficiency class (HDR) for High Dynamic Range (HDR) mode	N/A
Screen Diagonal (inch)	23.8
Screen Diagonal (cm)	60.45
Electronic display category	Monitors
Panel technology used	LCD
Screen Resolutions (pixels)	1920(H) ×1080 (V)
Automatic Brightness Control?	No
Voice recognition sensor available	No
Room presence sensor available	No

Appendix 1

Photo documentation

Photo 1

View:

116-1001P01

[ ] front

[√] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

[ ] internal

Photo 2

View:

116-1001P01

[√] front

[ ] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

[ ] internal

Photo 3

View:

Energy efficiency label

(Up Screen)

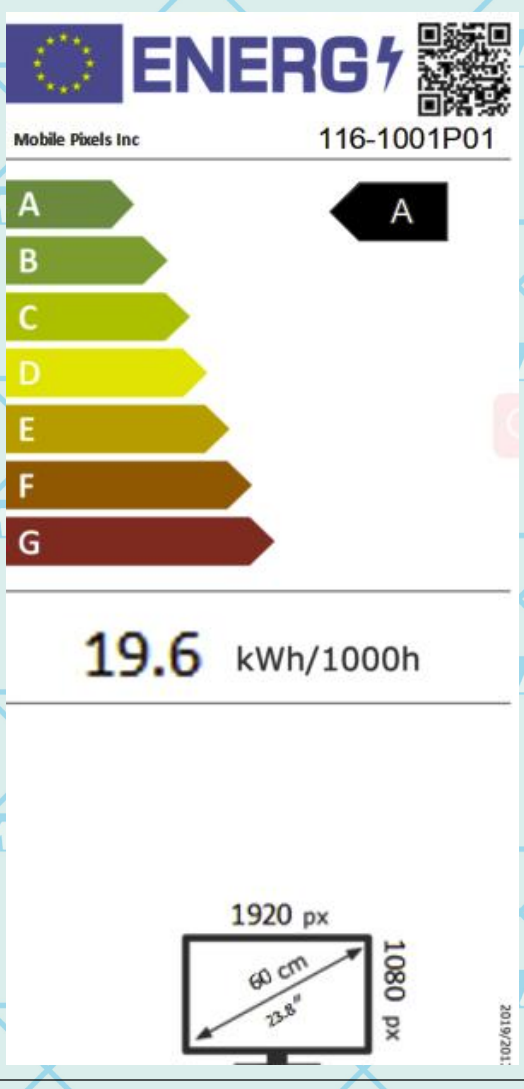

Photo 4

View:

Energy efficiency label

(Down Screen)

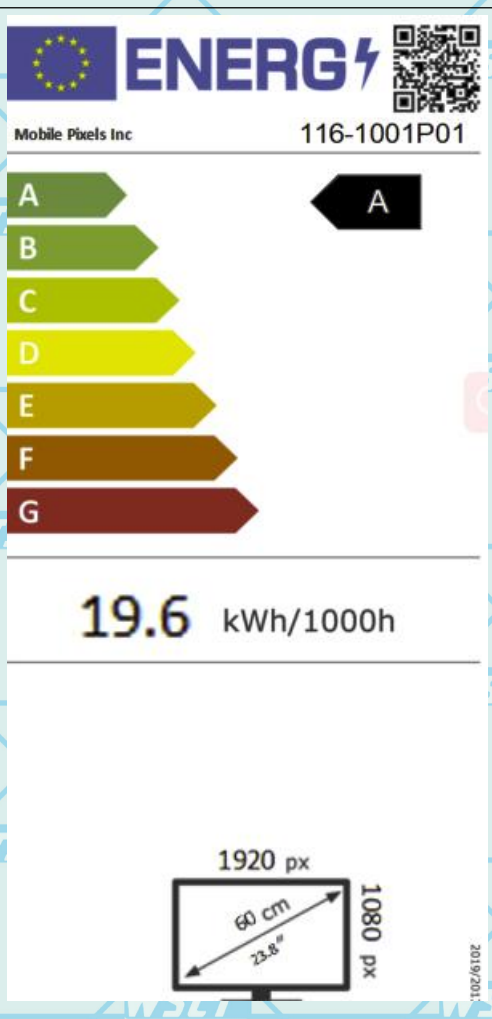

Photo 5

View:
External standardised power supply:BSY120T2405 003 D

Appendix 2

Equipment list

Code	Name	Model/ Type	S/N	Calibrated date	Next Calibration Date	Manufacture	Used or not
WSCTE E-007	Automatic Frequency Converter	AN970 30TS	069712327L	2023.03.10	2024.03.09	Ainuo	√
WSCTE E-023	Oscilloscope	TDS30 12B	B042290	2022.08.06	2023.08.05	Tektronix	√
WSCTE E-060	Tape	7.5m	--	2022.05.06	2023.05.05	Rongsheng	√
WSCTE E-098	Oscilloscope Carbon	HP925 8	020213401	2022.08.06	2023.08.05	Tektronix	√
WSCTE E-100	Digital power meter	WT21 0	--	2022.05.06	2023.05.05	YOKOGAWA	√
WSCTE E-119	Temperature and humidity meter	RS210	--	2023.03.10	2024.03.09	Shanghai YIJIE Automation Technology CO.,Ltd	√
WSCTE E-184	Signal Generator	SK-D1 2	HD20161200 8	2022.05.06	2023.05.05	Shenzhen Suoketai	√
WSCT-L &E-004	Luminance meter	CS-10 0A	16325008	2022.05.06	2023.05.05	KONICA MINOLTA	√
WSCT-L &E-010	illuminometer	PR-20 2U	--	2022.08.06	2023.08.05	SENSING	√

Directions

1. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
2. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
3. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

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*****END OF REPORT*****