海蕴
HAIYUN

ENERGY TEST REPORT

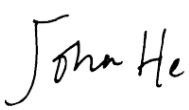
Report Number……: SAF260519003-01-001

Applicant's name……: Shenzhen KTC Technology Co.,Ltd.

Product name……: Mobile Screen / Smart Monitor / Smart Screen / LCD Monior / Mobile Monitor

Model/Type……: A32Q7S

Testing Laboratory….: Shenzhen Haiyun Testing Co., Ltd.

Tested by:	Reviewed by:	Approved by:	
Avril Tan	John He	Flank Wang	
			
2026-07-27	2026-07-27	2026-07-27	



ERP TEST REPORT

Ecodesign and Energy labelling requirement for Electronic DisplaysCOMMISSION REGULATION (EU) 2019/2021
COMMISSION DELEGATED REGULATION (EU) 2019/2013

Applicant's Name ……..……:	Shenzhen KTC Technology Co., Ltd.
Address ……...:	Floor 1-5, Building 1, No. 4023 Wuhe Avenue, Gangtou Community, Bantian, Longgang District, Shenzhen City, Guangdong Province, P.R. China
Manufacturer's Name…...……:	Same as applicant
Address ……...:	Same as applicant
Testing Laboratory Name ….....…..:	Shenzhen Haiyun Testing Co., Ltd.
Address ……...:	Room201, #3 Factory, Gongjin Electronics, Shatian, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Test specification	
Standard……..……..:	(EU) 2019/2021 + Corr. 2020-2-24 + (EU) 2021/341 (EU) 2019/2013 + Corr. 2020-2-24 + (EU) 2021/340
Test procedure ……..…..:	ERP
Non-standard test method ……..…...:	N/A
Testing……..……..…..:	
Date of receipt of test item ..……..:	2026-05-28
Date(s) of performance of test ..…...:	2026-05-28 to 2026-07-27
Description of television set.....……...:	Mobile Screen / Smart Monitor / Smart Screen / LCD Monior / Mobile Monitor
Brand name……..:	KTC
Model name or family name (if available) ……..…..:	A32Q7S
Model number or family number…..:	N/A
Rating(s)……..:	19VDC 4.74A (Supplied by approved external adapter)

POSSIBLE TEST CASE VERDICTS:

- test case does not apply to the test object .....: N/A
- test object does meet the requirement .....: P (Pass)
- test object does not meet the requirement .....: F (Fail)

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing Testing Laboratory. This report is invalid if it is arbitrarily altered. The report shall be invalid without the signature of the approver. The report without the official seal or special testing seal of Shenzhen Haiyun Testing Co., Ltd. (hereinafter referred to as the unit) is invalid. The applicant and manufacturer information, product name, model, trademark and other information in the report are provided by the applicant, and the laboratory is not responsible for verifying their authenticity. The authenticity of this Test Report and its contents can be verified by contacting the Testing Laboratory, responsible for this Test Report

Gerneral product information:

1. The products covered in this report is 32 inch Mobile Screen / Smart Monitor / Smart Screen / LCD Monior / Mobile Monitor.
2. All models are identical to each other except for model name and appearance color.
3. Unless otherwise specified, the model A32Q7S (equipped with type No. K320WLA31 of TFT Liquid) was selected as representative for all tests.
4. The product meets the requirements stage 1 and stage 2 of the implementation measure and it's amendments, under normal/default configuration.

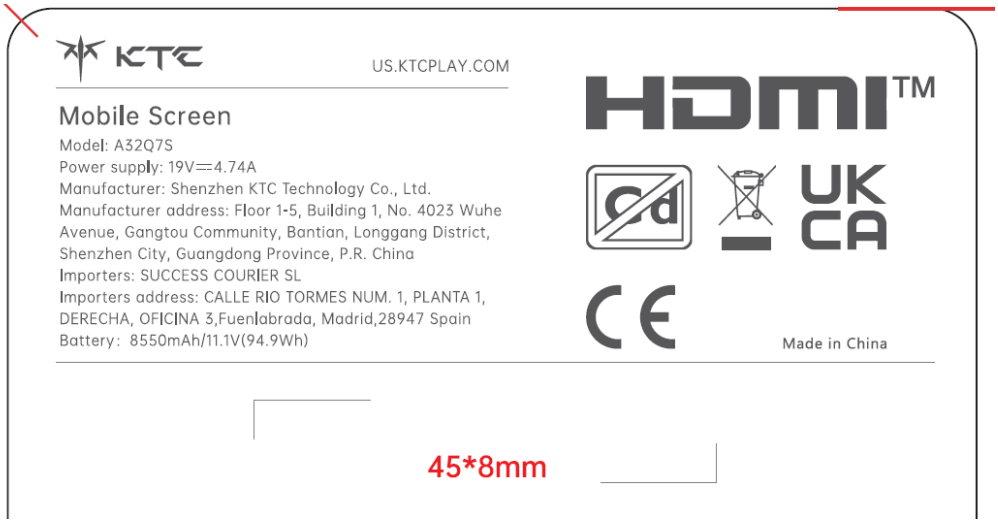
EEI limits for on-mode		
	Stage 1	Stage 2
Start Date	01.March.2021	01.March.2023

5. Approved external adapter.

Object/part No.	Manufacturer/ trademark	Type/model[1)]	Technical data
SWITCHING ADAPTER	Shenzhen SOY Technology Co., Ltd.	SOY-1900474	Input: 100-240V~ 50/60Hz, 1.8A Max; Output: 19.0V⎓ 4.74A, 90.06W LPS, Average Efficiency: 89.38%. No-load condition power consumption: 0.08W ERP report issued by Dongguan Pubiao Testing Technology Co., Ltd. Energy Efficiency Test Report

Factory's Name 1.....: N/A
Factory's Address 1.....: N/A

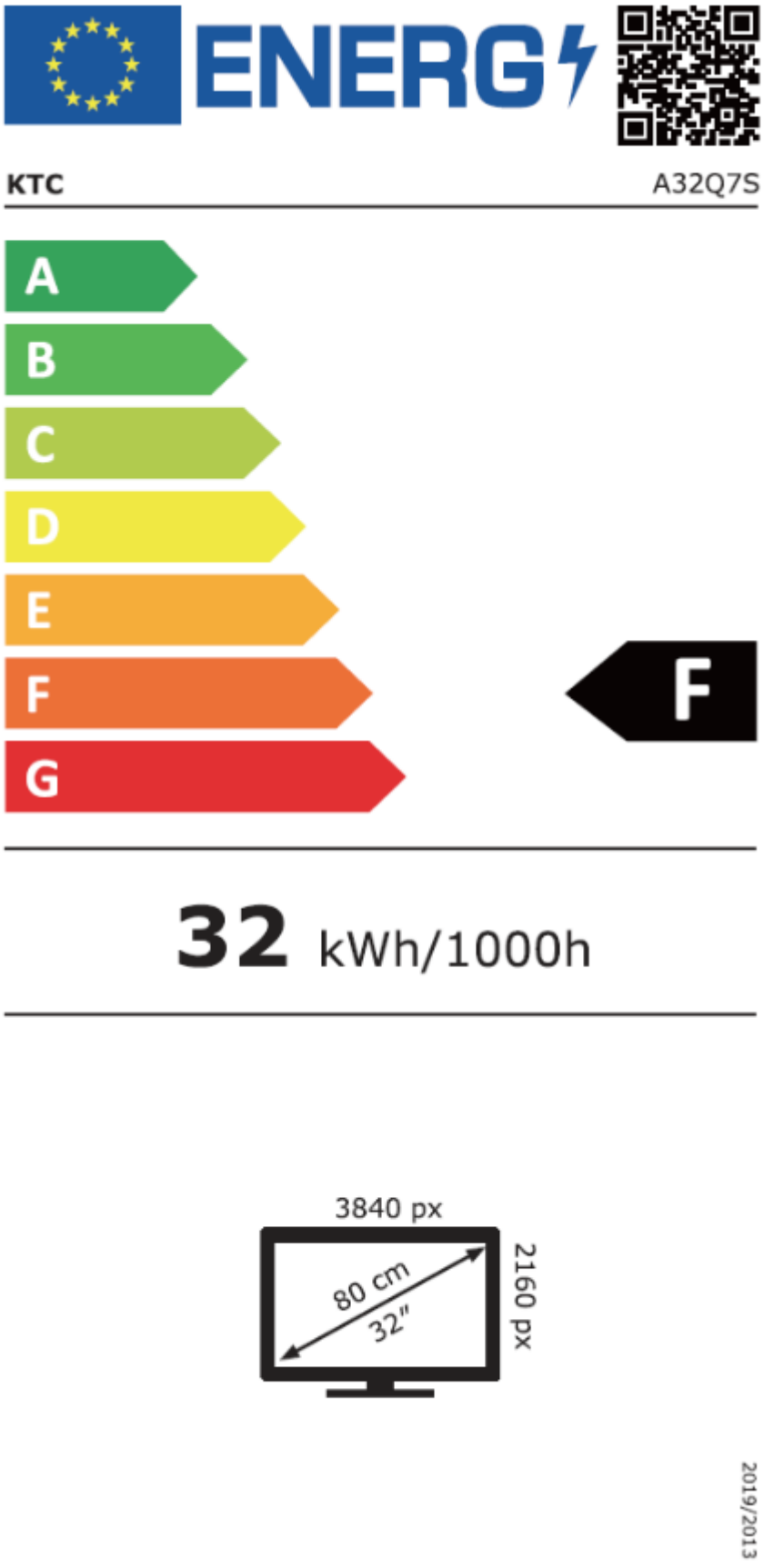
Copy of marking plate (representative):



Note:

1. The height dimension of CE mark should not be less than 5mm, the height dimension of WEEE symbol should not be less than 7mm.
2. According to the EU directives which have been aligned with EU NLF (new legislative framework), both of manufacturer and importer's name and address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompanying the product before the product is placed on the EU market.
3. Marking label of all models are identical except for model name.

Energy Label:



Television Set Condition:	
Power supply	☐ Internal power supply ☒ External power supply ☐ EPS Performance level: VI
Product type:	☐ Television ☒ Monitor ☐ digital signage display ☐ broadcast displays ☐ professional displays ☐ security displays ☐ digital interactive whiteboards ☐ digital photo frame ☐ status display
Screen Technology	LED LCD
Screen resolution (pixels)	3840 x 2160
Nominal Aspect Ratio	16:9
Viewable Screen Area (cm x cm)	69.7 x 39.2
Visible screen area (dm^2)	27.32
Visible screen diagonal in centimeters and in inches (cm/inch)	80cm / 32 inch
Automatic Brightness Control (ABC)	☒ Yes ☐ No
Voice recognition sensor available	☐ Yes ☒ No
Room presence sensor available	☐ Yes ☒ No
HDR mode	☐ Yes ☒ No
Forced Menu	☐ Yes ☒ No

Critical component list:			
Part Name	manufacturer/ trademark	type/model	mark(s) of conformity1)
TFT Liquid	SHENZHEN KTC TECHNOLOGY CO., LTD	K320WLA31	32" inch TFT Liquid and resolution 3840x 2160

Clause	Requirement + Test	Result – Remark	Verdict
0.	General		P
0.1	Ambient condition met requirement of: Ambient temperature 23 ±5ºC; Airspeed ≤0.5m/s. In on mode: For determining On mode power consumption for television sets with ABC enabled, ≤1 lx shall be confirmed at the surface of the ABC sensor assembly with the light sources off and the UUT in the Off or Disconnected mode. In the Standby, off and networked standby modes: Where the product has an ambient light sensor that affects the power consumption, the test shall be carried out with controlled ambient light conditions. Where the illuminance levels are externally defined (in a test procedure or in the instructions for use), these values shall be used. Where no illuminance levels are stated or defined, reference illuminance levels of >300 lx and <10 lx shall be used.	Ambient: 23.4ºC to 23.5 ºC, Airspeed: ≤0.26m/s.	P
0.2	Power source meets requirement of:		P
	AC input: Voltage: 230V±1%; Frequency: 50Hz±1%; THD value: <2%; ratio of peak value of test voltage to rms of 1.34 to 1.49.		N/A
	UUT with a standardized DC input:		N/A
0.3	Power measuring instrument		P
	The measurement shall be carried out directly by means of a wattmeter, a wattmeter with averaging function, or a watthour meter by dividing the reading by the measuring time. If the power consumption is expected to vary over time, such as in the case of a television set displaying a dynamic signal, a watthour meter or a wattmeter with an averaging function shall be used to carry out the measurement.		P

Clause	Requirement + Test	Result – Remark	Verdict
	The sampling rate of the watthour meter or wattmeter with averaging function shall be high enough to achieve an accurate measurement. The manufacturer's specification shall be used to determine the appropriateness of the meter and suitable sampling rates to perform a measurement with the required accuracy.		P
	The power measuring instrument used shall measure the real power consumed regardless of the power factor of the UUT.		P
	In the case of Standby, off and networked standby modes power measurement, it should be ascertained that the wattmeter or the watthour meter is suitable to measure the power consumption of power supplies working in a burst mode with a low duty cycle and the low power consumption levels in the Standby, off and network standby modes.		P
	For digital power meters a sampling rate of at least 10 kHz is recommended.		P
0.4	Measurement uncertainty		P
	Measurements of power of 0,5 W or greater shall be made with an uncertainty of less than or equal to 2 % at the 95 % confidence level. Measurements of power of less than 0,5 W shall be made with an uncertainty of less than or equal to 0,01 W at the 95 % confidence level. The power measuring instrument shall have a resolution of:		P
	- 0,01 W or better for power measurements of 10 W or less;		P
	- 0,1 W or better for power measurements of greater than 10 W up to 100 W;		P
	- 1 W or better for power measurements of greater than 100 W.		N/A
	For equipment connected to more than one phase, the power measuring instrument shall be equipped to measure the total power of all phases connected.		N/A
0.5	Luminance measuring device		P
	The contact luminance meter for display luminance measurement shall be rigged to align with the centre of the UUT screen.		P

Clause	Requirement + Test	Result – Remark	Verdict
	The LMD shall have an accuracy of ±2 % ± 2 digits of the digitally displayed value or better.		P
0.6	Illuminance measuring instrument		P
	The illuminance measuring instrument shall have an accuracy of ± 2 % ± 2 digits or better.		P
0.7	Light source for product with ABC function		N/A
	Projector		N/A
	Shall provide an illuminance at the ABC sensor of less than 12 lux and up to 150 lux for TVs and monitors and up to 20,000 lux for Digital Signage Display from a minimum distance of approximately 1.5 m from ABC sensor		N/A
	Solid state lamp engine (LED, Laser or LED /Laser combination). Colour gamut of projector shall be equal to or better than REC 709. Tilting Mounting platform allowing precise alignment of projector beam. This may be combined with or replaced by a built in Optical alignment feature.		N/A
	Dimmable LED Lamp		N/A
	have a diameter of 90 mm ± 5 mm		N/A
	The rated beam angle of the lamp shall be 40 ° ± 5 °		N/A
	The rated correlated colour temperature (CCT) shall be 2700 K ± 300 K throughout the illuminance range 12 lux to the peak illuminance required for testing.		N/A
	The rated colour rendering index (CRI) shall be 80 ± 3.		N/A
	The front surface of the lamp shall be clear (i.e., not coloured or coated with a spectrum modifying material) and may have a smooth or granular front surface; when shined against a uniform white surface, the diffusion pattern shall appear smooth to the naked eye.		N/A
	The lamp assembly shall not modify the spectrum of the LED source, including the IR and UV bands.		N/A
	The characteristics of the light shall not vary across the full range of dimming required for the ABC testing.		N/A

Clause	Requirement + Test	Result – Remark	Verdict
(EU) 2019/2021			P
Annex II	Ecodesign requirements		P
A.	Energy Efficiency Requirements		P
1.	The energy efficiency index (EEI) of an electronic display shall be calculated using the following equation: $EEI = \frac{(P_{measured} + 1)}{(3 \times [90 \times tanh(0,02 + 0,004 \times (A - 11)) + 4] + 3) + corr}$ 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 not apply the ABC allowance in point B (1). This shall apply until 28 February 2023. corr shall be zero in all other cases.	EEI: 0.869 $P_{declared}$: 32W A= 27.32dm^2 corr= 0	
	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.	EEI_{max}: 0.90 (Stage 1); EEI_{max}: 0.75 (Stage 2)	P
	The declared values of the on mode power ($P_{measured}$) and screen area (A) as listed in Table 5 of Annex VI of delegated Regulation 2019/2013 shall be used for the calculation of EEI.		P
	'Table 1 **EEI limits for on-mode** | | EEI_{max} for electronic displays with resolution up to HD | EEI_{max} for electronic displays with resolution above HD and up to UHD | EEI_{max} for electronic displays with resolution above UHD and for MicroLED displays | | 1 March 2021 | 0,90 | 1,10 | n.a. | | 1 March 2023 | 0,75 | 0,90 | 0,90' |		
B.	Allowances and adjustments for the purpose of the EEI calculation and functional Requirements		P
	From 1 March 2021, electronic displays shall meet the requirements listed below		P

Clause	Requirement + Test	Result – Remark	Verdict
1.	Electronic displays with automatic brightness control (ABC)		P
	Electronic displays qualify for a 10 % reduction in $P_{measured}$, if they meet all of the following requirements:		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;	Tum off ABC	P
(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;		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; and		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:		N/A
	- the measured screen luminance at 60 lux is between 65 % and 95 % of the screen luminance measured at 100 lux;		N/A
	- the measured screen luminance at 35 lux is between 50 % and 80 % of the screen luminance measured at 100 lux; and		N/A
	- the measured screen luminance at 12 lux is between 35 % and 70 % of the screen luminance measured at 100 lux.		N/A

Clause	Requirement + Test	Result – Remark	Verdict
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.		N/A
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.		N/A
	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.	Set as normal configuration:101.0cd/m^2	P
C.	Off mode, Standby and Networked Standby mode requirements		P

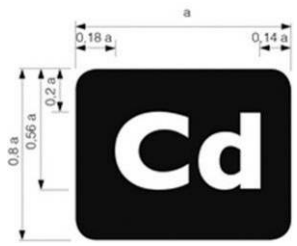
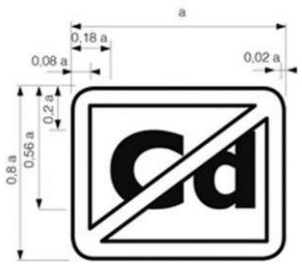
Clause	Requirement + Test	Result – Remark	Verdict
	From 1 March 2021, electronic displays shall meet the requirements listed below.		P
1.	Power demand limits other than on-mode		P
	Electronic displays shall not exceed power demand limits in the different modes and conditions listed in Table 2:	Standby mode limit: 0.50W	P
	Table 2 **power demand limits other than on-mode, in Watts**		
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.	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.		P
	Networked electronic displays shall comply with the requirements for networked standby mode with the reactivation trigger device connected to the network and ready to activate a trigger instruction when required to.		N/A
	With networked standby mode disabled, networked electronic displays shall comply with the requirements of standby mode.		N/A
3.	Automatic standby in televisions		N/A

	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*

Clause	Requirement + Test	Result – Remark	Verdict
(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 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.		N/A
(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.		N/A
(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.		N/A
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 minute		P

Clause	Requirement + Test	Result – Remark	Verdict
	Before triggering such a switch, a warning message shall be displayed and the switch completed within 10 minutes.		P
D.	Material efficiency requirements		P
	From 1 March 2021, electronic displays shall meet the requirements indicated below.		P
1.	Design for dismantling, recycling and recovery	Declared by the manufacturer	N/A
	(a) 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 on batteries and accumulators and waste batteries and accumulators, when present.		N/A
	(b) The derogations indicated in Article 11 of Directive 2006/66/EC about permanent connection between the electronic display and the battery or accumulator apply.		N/A
	(c) 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 dismantling information needed to access any of the products components referred to in point 1 of Annex VII of Directive 2012/19/EU.		N/A
	(d) This dismantling information shall include the sequence of dismantling steps, tools or technologies needed to access the targeted components.		N/A
	(e) This 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.		N/A
2.	Marking of plastic components	Declared by the manufacturer	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.		P

Clause	Requirement + Test	Result – Remark	Verdict
	Plastic components are exempt from marking requirements in the following circumstances:	Except for plastic enclosure	P
	(i) the marking is not possible because of the shape or size;		P
	(ii) the marking would impact on the performance or functionality of the plastic component; and		P
	(iii) marking is technically not possible because of the molding method.		P
	For the following plastic components no marking is required:		P
	(i) packaging, tape, labels and stretch wraps;		P
	(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;		P
	(iii) PCB assemblies, PMMA boards, optical components, electrostatic discharge components, electromagnetic interference components, speakers;		P
	(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	Declared by the manufacturer	P

Clause	Requirement + Test	Result – Remark	Verdict
	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: Cadmium inside  Cadmium free  	A 'Cadmium free' logo used	P
	The dimension of 'a' shall be greater than 9 mm and the typeface to be used is 'Gill Sans'.		P
	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	Declared by the manufacturer	N/A

Clause	Requirement + Test	Result – Remark	Verdict
	The use of halogenated flame retardants is not allowed in the enclosure and stand of electronic displays.	No halogenated flame retardants used	N/A
5.	Design for repair and reuse		N/A
(a)	Availability of spare parts:	Declared by the manufacturer	N/A
	(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 Blu-Ray), capacitors above 400 microfarads, batteries and accumulators, DVD/Blu-Ray module if applicable and HD/SSD module if applicable for a minimum period of seven years after placing the last unit of the model on the market;		N/A
	(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;		N/A
	(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;		N/A
	(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		N/A
	(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.		N/A

Clause	Requirement + Test	Result – Remark	Verdict
(b)	Access to repair and maintenance information	Declared by the manufacturer	N/A
	After a period of two years after the placing on the market of the first unit of a model or of an 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:		N/A
	(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:		N/A
	(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;		N/A
	(ii) the professional repairer is covered by insurance covering liabilities resulting from its activity, regardless of whether this is required by the Member State;		N/A
	(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;		N/A
	(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.		N/A

Clause	Requirement + Test	Result – Remark	Verdict
	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:		N/A
	- the unequivocal appliance identification;		N/A
	- a disassembly map or exploded view;		N/A
	- list of necessary repair and test equipment;		N/A
	- component and diagnosis information (such as minimum and maximum theoretical values for measurements);		N/A
	- wiring and connection diagrams;		N/A
	- diagnostic fault and error codes (including manufacturer-specific codes, where applicable); and		N/A
	- data records of reported failure incidents stored on the electronic display (where applicable).		N/A
(c)	Maximum delivery time of spare parts	Declared by the manufacturer	N/A
	(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;		N/A
	(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).		N/A
E.	Information availability requirements		N/A
	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.	Declared by the manufacturer	N/A
	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).	Declared by the manufacturer	N/A
1.	Availability of software and firmware updates	Declared by the manufacturer	N/A

Clause	Requirement + Test	Result – Remark	Verdict
(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 non-discriminatory 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.		N/A
(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.		N/A

Annex III	Measurement methods and calculations		P
1.	General		P
2.	Measurments of on mode power demand applied		P
	Measurments of peak white luminance applied		P
	Measurements of Standard Dynamic Range, High Dynamic Range, screen luminance for Automatic Brightness Control, Peak White luminance ratio and other luminance measurements shall be made as detailed in Table 3a.		P
Annex IIIa	Transitional methods		P
1.	ADDITIONAL ELEMENTS FOR MEASUREMENTS AND CALCULATIONS		P
1.1.	Summary of order of testing		P
1.2	Details of testing		P
1.2.1.	UUT (display) and measuring instrument set up		P
1.2.2.	Check of correct implementation of “normal configuration” and energy impact warnings.		P
1.2.3.	Audio Setting		P
1.2.4.	Identifying the peak white luminance pattern for peak white luminance measurements		P

Clause	Requirement + Test	Result – Remark	Verdict
1.2.5.	Determination of ABC ambient light control range and latency of ABC action.		N/A
1.2.5.1	ABC Latency Profiling		N/A
1.2.5.2	Light Source Illumination Control		N/A
1.2.5.3	Light Source Colour Temperature Control		N/A
1.2.5.4	Data Recording		N/A
1.2.6.	Display luminance measurements		P
1.2.7.	Measurement of on-mode power		P
1.2.8.	Measure power requirement of low power and off modes		P

Clause	Requirement + Test	Result – Remark	Verdict

(EU) 2019/2013			P
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.	SDR energy efficiency class: F HDR energy efficiency class: /	P
	Table 1 **Energy efficiency classes of electronic displays** Energy Efficiency Class: 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 — $0,90 \leq EEI_{label}$		
B.	Energy Efficiency Index (EEI_{label})		P
	The Energy Efficiency Index (EEI_{label}) of the electronic display shall be calculated using the following equation: $EEI_{label} = \frac{(P_{measured} + 1)}{(3 \times [90 \times tanh(0,025 + 0,0035 \times (A - 11)) + 4] + 3) + corr_l}$ where: A represents the viewing surface area in dm^2; $P_{measured}$ is the measured power in on mode in Watts in the normal configuration and set as indicated in Table 2; $corr_l$ is a correction factor set as indicated in Table 3.	SDR EEI_{label}: 0.889 $P_{declared}$=32W A= 27.32dm^2 corr= 0 HDR EEI_{label}: / $P_{declared}$=/ A= / corr= /	P
	The declared values of the on mode power (Pmeasured) and viewing surface area (A) as listed in Table 5 of Annex VI shall be used for the EEI calculation.		P

Clause	Requirement + Test	Result – Remark	Verdict

Table 2

Measurement of $P_{measured}$

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

Table 3

$corr_i$ value

Electronic Display type	$corr_i$ value
Television	0,0
Monitor	0,0
Digital signage	0,00062*(lum-500)*A *where 'lum' is the peak white luminance, in cd/m², of the brightest on mode configuration of the electronic display and A is the screen area in dm²*

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:	Turn off ABC	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

Clause	Requirement + Test	Result – Remark	Verdict
(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:		N/A
	- the measured screen luminance at 60 lux is between 65 % and 95 % of the screen luminance measured at 100 lux;		N/A
	- the measured screen luminance at 35 lux is between 50 % and 80 % of the screen luminance measured at 100 lux;		N/A
	- the measured screen luminance at 12 lux is between 35 % and 70 % of the screen luminance measured at 100 lux.		N/A
Annex III	Label for electronic displays		P
1.	LABEL	See label for details.	
Annex IV	Measurement methods and calculations		P
1.	Measurments of on mode power demand applied		P
2.	Measurments of peak white luminance applied		P
	Measurements of Standard Dynamic Range, High Dynamic Range, screen luminance for Automatic Brightness Control, Peak White luminance ratio and other luminance measurements shall be made as detailed in Annex III, Table 3a of Commission Regulation (EU) 2019/2021.		P

Table 1		**Peak Luminance Measurement**					
T_{amb} (23 ±5 ºC):		23.5			Rh (10-80%) :		55
Airspeed (≤0.5m/s):		≤0.26			CF of voltage: (≥1.34, ≤1.49)		1.41
Input terminal:		HDMI			Video signal:		Box and outline dynamic test pattern: L80
Test voltage (V)	Frequency (Hz)	THD of Voltage (%)	Illuminance level (lux)	Input current (A)	Luminance (cd/m^2)	Power (W)	Remark
Product without ABC function							
230.0	50.0	1.329	--	0.254	101.0	30.50	Normal configuration (Home configuration, Standard mode)
230.0	50.0	1.354	--	0.281	143.9	34.42	Brightest pre-set configuration (FPS Mode)
--	--	--	--	--	--	--	Brightest pre-set configuration (Retail configuration, Vivid mode)
Product with ABC function							
--	--	--	--	--	--	--	Normal configuration at 100 lux.
--	--	--	--	--	--	--	Brightest pre-set configuration at 100 lux.
--	--	--	--	--	--	--	Normal configuration at 60 lux. $L_{60\ lux}$ / $L_{100\ lux}$ = ____.
--	--	--	--	--	--	--	Normal configuration at 35 lux. $L_{35\ lux}$ / $L_{100\ lux}$ = ____.
--	--	--	--	--	--	--	Normal configuration at 12 lux. $P_{12\ lux}$ / $P_{100\ lux}$= ____. $L_{12\ lux}$ / $L_{100\ lux}$ = ____.
--	--	--	--	--	--	--	Normal configuration with ABC off.
Supplementary information:							

Table 2	**Power measurement - On Mode**

T_{amb} (23±5ºC) :	23.4	Rh (10-80%):	55
Airspeed (≤0.5m/s):	≤0.26	CF of voltage: (≥1.34, ≤1.49)	1.41
Input terminal:	HDMI	Video signal:	SDR: HD Dynamic Video Power.mp4 HDR: HDR-HLG power.MP4, HDR_HDR10 power.MP4

Test voltage (V)	Frequency (Hz)	THD of Voltage (%)	Illuminance level (lux)	Input current (A)	Power Factor	Power (W)	Remark
230.0	50.0	1.319	--	0.237	0.519	28.52	SDR, normal configuration
--	--	--	--	--	--	--	HDR-HLG power, normal configuration
--	--	--	--	--	--	--	HDR-HDR10 power, normal configuration

Supplementary information:
For UUT with ABC function, switch off ABC. If it cannot be switch off shall be tested in the 100 lux ambient.

Table 3	**Power measurement - Standby mode, Off mode, Networked standby mode**					
T_{amb} (23±5 ºC):	23.4		Rh (10-80%):	55		
Airspeed (≤0.5m/s):	≤0.26		CF of voltage: (≥1.34, ≤1.49)	1.41		
Test voltage (V)	Frequency (Hz)	THD of Voltage (%)	Input current (A)	PF	Power (W)	Remark
230.0	50.0	0.354	0.045	0.038	0.391	Standby mode
230.0	50.0	0.321	0.044	0.022	0.222	Off mode
Supplementary information:						

Table 4	**Screen size and weight measurement**		
Width (dm):	3.92	Length (dm):	6.97
Diagonal screen (inches)	32	Visible screen size (dm^2):	27.32
Weight (kg):	16.67	--	
Supplementary information:			

Photos



External view

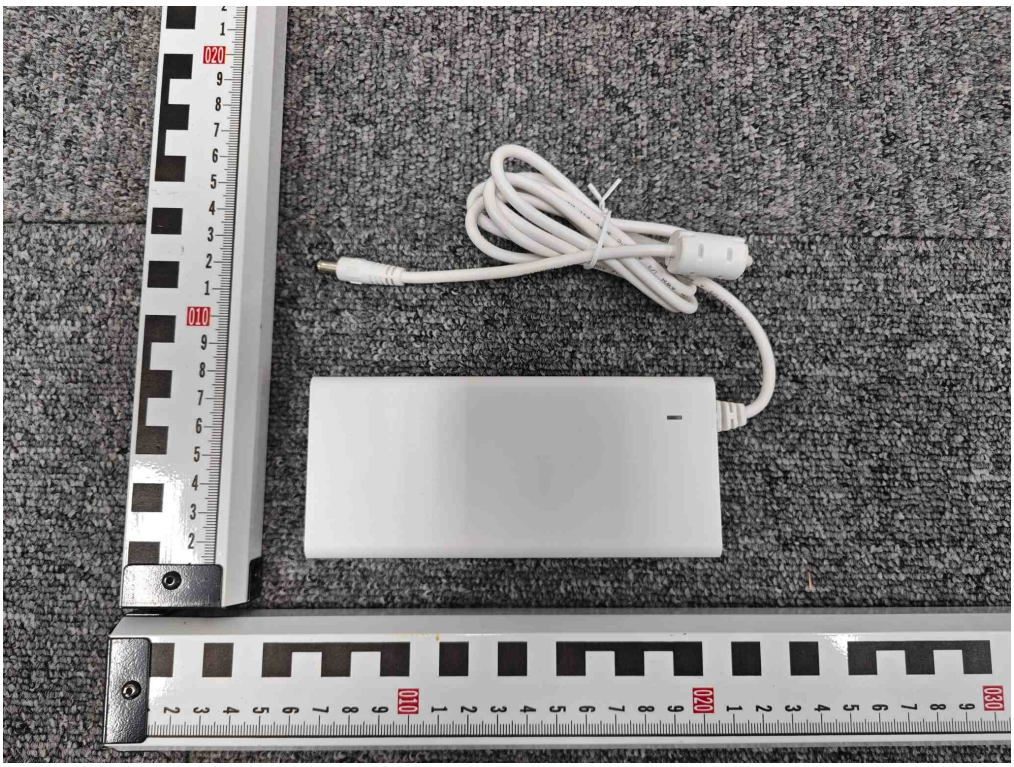


External view

Photos



Terminal view



SWITCHING ADAPTER

Photos



SWITCHING ADAPTER Label

Test equipment list

Equipment No.	Name	Manufacture	Type/Model	Cal. Date.	Next Cal. Date
JL023	Electronic Scale	Yingheng	ACS-30Kg	2025/9/5	2026/9/4
JL039	Tapeline	Tianhuada	5m	2025/9/20	2026/9/19
JL076	Hot-bulb anemometer	TES	1340	2025/9/22	2026/9/21
JL095	Digital Power Metter	Yokogawa	WT310	2025/12/3	2026/12/2
JL276	Temp&Humidity Recorder	Anymetre	JR900	2025/12/3	2026/12/2
JL266	Programmable power supply	All poewer	APG-1100N	2025/12/3	2026/12/2
JL400	Luminance meter	KONICA MINOLTA	CS-200	2025/12/6	2026/12/5

-- END OF THIS REPORT --