

TEST REPORT

**COMMISSION REGULATION (EU) No 617/2013 of 26 June 2013
implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to
ecodesign requirements for computers and computer servers**

Report Reference No.....: EC2005029S02

Witnessed by (name + signature): Dean Liu *Dean Liu*

Approved by (name + signature).....: Peter Xu *Peter Xu*

Date of issue.....: Jun. 18, 2020

Contents.....: 15 Pages

Testing Laboratory.....: Hunan Ecloud Testing Technology Co., Ltd.

Address.....: Building A1, Changsha E Center, No. 18 Xiangtai Avenue,
Liuyang Economic and Technological Development Zone, Hunan,
P.R.C

Testing location/ address.....: Same as above

Applicant's name.....: Purism, SPC

Address.....: One Market Street, 36th Floor, San Francisco, CA 94105, USA

Test specification.....:

Standard.....: COMMISSION REGULATION (EU) No 617/2013

Test procedure.....: Compliance with COMMISSION REGULATION (EU) No 617/2013

Non-standard test method.....: N/A

Master TRF.....: Dated 2017-12

Test item description.....: Librem Mini

Trade Mark.....: /

Manufacturer.....: Purism, SPC

Address One Market Street, 36th Floor, San Francisco, CA 94105, USA

Model/Type reference.....: LMv1-01

Ratings.....: For accredited Adapter: Input:100-240 Vac,50/60 Hz

Output: 19 Vdc, 2,1 A

For Librem Mini: Input: 19 Vdc, 2,1 A ;class III

Copy of marking plate:**Note :**

1. The marking plate on final product may be different due to requirements from intended market.
2. The CE marking symbol should be at least 5.0 mm respectively in height and WEEE symbol should be at least 7.0 mm respectively in height.

The importer information should be marked in product when this product import to European Marketing

Test item particulars:	
Technical parameters	
CPU.....	Inter(R) Core(TM) i7-8565U CPU @1.80GHz 1.99G Hz
Graphics.....	Intel® HD Graphics620
Memory	4 GB
Fan.....	Built in non-noise Fan
Environment.....	0°C ~ 35°C (32 °F ~ 104 °F) at 0.7m/s Air Flow
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)	
Testing:	
Date of receipt of test item.....: May. 29, 2020	
Date (s) of performance of tests.....: Jun. 18, 2020- Jun. 19, 2020	
General remarks:	
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. "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a comma (point) is used as the decimal separator.	
General product information:	
Librem Mini	
Model: LMv1-01	
For accredited Adapter: Input:100-240 Vac,50/60 Hz	
Output: 19 Vdc, 2,1 A	
For Librem Mini : Input: 19 Vdc, 2,1 A ;class III	
Summary of testing:	
The product has been tested according to standard COMMISSION REGULATION (EU) No 617/2013 and complied with.	

COMMISSION REGULATION (EU) No 617/2013			
Clause	Requirement + Test	Result - Remark	Verdict
COMMISSION REGULATION (EU) No 617/2013 of 26 June 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for computers and computer servers			
ANNEX II	Ecodesign requirements and timetable		
	Desktop computer and integrated desktop computer		
1. E _{TEC}			
1.1	From 1 July 2014		
1.1.2	The following capability adjustments apply		
	(a) memory: 1 kWh/year per GB over base, where base memory is 2 GB (for category A, B and C computers) and 4 GB (for category D computers)		P
	(b) additional internal storage: 25 kWh/year;		N/A
	(c) discrete television tuner: 15 kWh/year		N/A
	(d) discrete audio card: 15 kWh/year		N/A
1.2.	From 1 January 2016		
1.2.1	The following revisions to the annual total energy consumption specified in point 1.1.1 apply:		
	The annual total energy consumption (E _{TEC} in kWh/year) shall not exceed:		
	(a) Category A computer: 94,00		N/A
	(b) Category B computer: 112,00		N/A
	(c) Category C computer: 134,00	41,29	P
	(d) Category D computer: 150,00		N/A
1.2.2	The following revisions to the capability adjustments for discrete graphics cards (dGfx) specified in point 1.1.2(e) apply:		
	First discrete graphics card (dGfx)		
	dGfx category: G1 TEC allowance: 18 kWh/year		N/A
	dGfx category: G2 TEC allowance: 30 kWh/year		N/A
	dGfx category: G3 TEC allowance: 38 kWh/year		N/A
	dGfx category: G4 TEC allowance: 54 kWh/year		N/A
	dGfx category: G5 TEC allowance: 72 kWh/year		N/A
	dGfx category: G6 TEC allowance: 90 kWh/year		N/A
	dGfx category: G7 TEC allowance: 122 kWh/year		N/A

COMMISSION REGULATION (EU) No 617/2013			
Clause	Requirement + Test	Result - Remark	Verdict
	Each additional discrete graphics card (dGfx)		
	dGfx category: G1 TEC allowance: 11 kWh/year		N/A
	dGfx category: G2 TEC allowance: 17 kWh/year		N/A
	dGfx category: G3 TEC allowance: 22 kWh/year		N/A
	dGfx category: G4 TEC allowance: 32 kWh/year		N/A
	dGfx category: G5 TEC allowance: 42 kWh/year		N/A
	dGfx category: G6 TEC allowance: 53 kWh/year		N/A
	dGfx category: G7 TEC allowance: 72 kWh/year		N/A
2. SLEEP MODE			
Desktop computer, integrated desktop computer and notebook computer			
2	From 1 July 2014		
2.1	A product shall provide sleep mode and/or another condition that provides the functionality of sleep mode and which does not exceed the applicable power demand requirements for a sleep mode.		P
2.2	Power demand in sleep mode shall not exceed 5,00 W in desktop computers and integrated desktop computers and 3,00 W in notebook computers	Product is a desktop computer, $P_{\text{sleep}}=0,67\text{W}$	P
2.3	Desktop computers and integrated desktop computers where idle state power demand is less than or equal to 10,00 W are not required to have a discrete system sleep mode		N/A
2.4	Where a product is placed on the market with a WOL functionality enabled in sleep mode		
	(a) an additional allowance of 0,70 W can be applied		N/A
	(b) it must be tested with a WOL functionality both enabled and disabled and must comply with both requirements		N/A
2.4	Where a product is placed on the market without Ethernet capability, it shall be tested without WOL enabled		N/A
3. LOWEST POWER STATE			
Desktop computer, integrated desktop computer and notebook computer			
3	As of the entry into force of the Regulation		

COMMISSION REGULATION (EU) No 617/2013			
Clause	Requirement + Test	Result - Remark	Verdict
3.1	Power demand in the lowest power state shall not exceed 0,50 W.	----	N/A
3.2	A product shall provide a power state or mode which does not exceed the applicable power demand requirements for the lowest power state when it is connected to the mains power source		N/A
3.3	Where a product is placed on the market with an information or status display, an additional allowance of 0,50 W can be applied		N/A
4.OFF MODE			
Desktop computer, integrated desktop computer, desktop thin client, workstation, and small-scale server			
4	From 1 July 2014		
4.1	Power demand in off mode shall not exceed 1,00 W.	$P_{off}=0,93W$	P
4.2	A product shall provide off mode and/or another condition which does not exceed the applicable power demand requirements for off mode when it is connected to the mains power source.		P
4.3	Where a product is placed on the market with a WOL functionality enabled in off mode:		
	(a)an additional allowance of 0,70 W can be applied;		N/A
	(b)it must be tested with a WOL functionality both enabled and disabled and must comply with both requirements		N/A
4.4.	Where a product is placed on the market without Ethernet capability, it shall be tested without WOL enabled.		N/A
5.INTERNAL POWER SUPPLY EFFICIENCY			
Desktop computer, integrated desktop computer, desktop thin client, workstation, and small-scale server			
5.1	From 1 July 2014		
	All computer internal power supplies shall not perform at less than:		
	(a)85 % efficiency at 50 % of rated output power	----	N/A
	(b)82 % efficiency at 20 % and 100 % of rated output power	----	N/A
	(c)power factor = 0,9 at 100 % of rated output power.	----	N/A
	Internal power supplies with a maximum rated output power of less than 75 W are exempt from the power factor requirement		N/A
6.POWER MANAGEMENT ENABLING			
Desktop computer, integrated desktop computer and notebook computer			
	As of the entry into force of the Regulation		

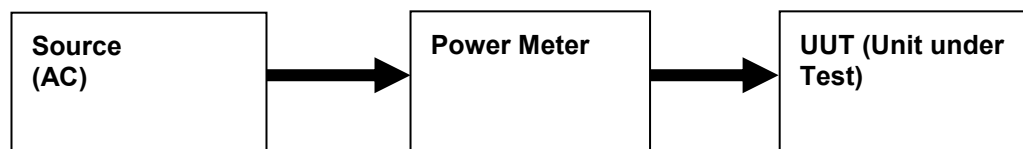
COMMISSION REGULATION (EU) No 617/2013			
Clause	Requirement + Test	Result - Remark	Verdict
	The computer shall offer a power management function, or a similar function which, when the computer is not providing the main function or when other energy-using products are not dependent on its functions, automatically switches the computer into a power mode that has a lower power demand than the applicable power demand requirement for sleep mode.		P
	From 1 July 2014		
6.2.1	The computer shall reduce the speed of any active 1 Gigabit per second (Gb/s) Ethernet network links when transitioning to sleep or off-with-WOL mode.		P
6.2.2.	When in sleep mode, the response to 'wake events', such as those via network connections or user interface devices, should happen with a latency of ≤ 5 seconds from the initiation of a wake event to the system becoming fully usable including rendering of display.		P
6.2.3.	The computer shall be placed on the market with the display sleep mode set to activate within 10 minutes of user inactivity.		P
6.2.4.	A computer with Ethernet capability shall have the ability to enable and disable a WOL function, if available, for sleep mode. A computer with Ethernet capability shall have the ability to enable and disable WOL for off mode if WOL from off mode is supported.		N/A
6.2.5.	Where a distinct sleep mode or another condition that provides sleep mode functionality exists, the mode shall be set to activate within 30 minutes of user inactivity. This power management function shall be activated before placing the product on the market.		P
6.2.6.	Users shall be able to easily activate and deactivate any wireless network connection(s) and users shall be given a clear indication with a symbol, light or equivalent, when wireless network connection(s) have been activated or deactivated.		P
7. INFORMATION TO BE PROVIDED BY MANUFACTURERS			
Desktop computer, integrated desktop computer, and notebook computer			
7.1.	From 1 July 2014		
7.1.1.	Manufacturers shall provide in the technical documentation and make publicly available on free-access websites the following information:		
	(a) product type and category as defined in Article 2 (one and only one category);		P

COMMISSION REGULATION (EU) No 617/2013			
Clause	Requirement + Test	Result - Remark	Verdict
	(b) manufacturer's name, registered trade name or registered trade mark, and the address at which they can be contacted		P
	(c) product model number;		P
	(d) year of manufacture;		P
	(e) ETEC value (kWh) and capability adjustments applied when all discrete graphics cards (dGfx) are disabled and if the system is tested with switchable graphics mode with UMA driving the display		N/A
	(f) ETEC value (kWh) and capability adjustments applied when all discrete graphics cards (dGfx) are enabled;		N/A
	(g) idle state power demand (Watts);		
	(h) sleep mode power demand (Watts);		
	(i) sleep mode with WOL enabled power demand (Watts) (where enabled);		N/A
	(j) off mode power demand (Watts);		P
	(k) off mode with WOL enabled power demand (Watts) (where enabled)		N/A
	(l) internal power supply efficiency at 10 %, 20 %, 50 % and 100 % of rated output power;		N/A
	(m) external power supply efficiency;		P
	(n) noise levels (the declared A-weighted sound power level) of the computer;		
	(o) the minimum number of loading cycles that the batteries can withstand (applies only to notebook computers);		N/A
	(p) the measurement methodology used to determine information mentioned in points (e) to (o);		P
	(q) sequence of steps for achieving a stable condition with respect to power demand;		P
	(r) description of how sleep and/or off mode was selected or programmed;		P

COMMISSION REGULATION (EU) No 617/2013			
Clause	Requirement + Test	Result - Remark	Verdict
	(s) sequence of events required to reach the mode where the equipment automatically changes to sleep and/or off mode;		P
	(t) the duration of idle state condition before the computer automatically reaches sleep mode, or another condition which does not exceed the applicable power demand requirements for sleep mode;		P
	(u) the length of time after a period of user inactivity in which the computer automatically reaches a power mode that has a lower power demand requirement than sleep mode;		P
	(v) the length of time before the display sleep mode is set to activate after user inactivity;		P
	(w) user information on the energy-saving potential of power management functionality;		P
	(x) user information on how to enable the power management functionality		P
	(y) for products with an integrated display containing mercury, the total content of mercury as X,X mg;		P
	z) test parameters for measurements:		
	test voltage in V and frequency in Hz,		P
	total harmonic distortion of the electricity supply system		P
	Information and documentation on the instrumentation, set-up and circuits used for electrical testing.		P
7.1.2	If a product model is placed on the market in multiple configurations the product information required under point 7.1.1 may be reported once per product category (as defined in Article 2), for the highest power-demanding configuration available within that product category. A list of all model configurations that are represented by the model for which the information is reported shall be included in the information provided.		N/A

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Generic Test Set-up



$$E_{TEC} = (8760/1000) \times (0,55 \times P_{off} + 0,05 \times P_{sleep} + 0,40 \times P_{idle})$$

Table: Power consumption		P
Model No.	LMv1-01	
Test voltage and Input supply frequency	12 Vdc	
P _{off}	0,93	
P _{sleep}	0,67	
P _{idle}	10,42	
E _{TEC}	41,29	

List of test equipment used:

Inventory no.	Details	Type name	Manufacturer
SF-A-001	AC Power Source	HY9030T	Haiyue
SF-A-007	power meter	WT310E	YOKOGAWA
SF-A-059-2	second chronograph	PS-528	pursun

Attachment No.3 PHOTO DOCUMENTATION

Photo 1: view of products and accessories

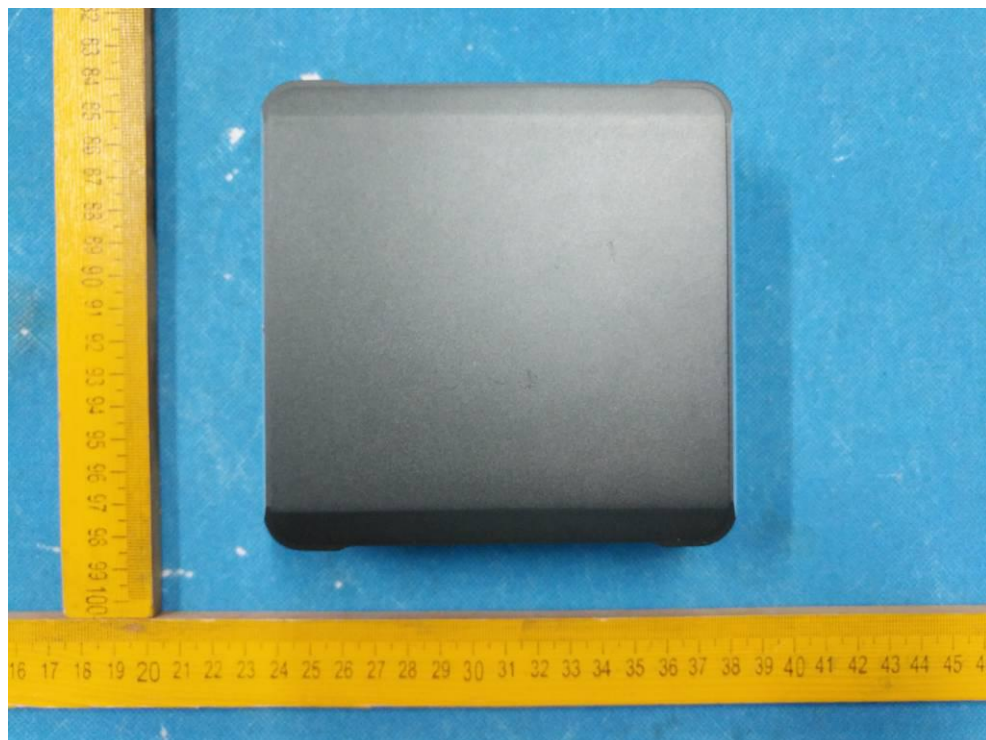


Photo 2: front view of product

Attachment No.3 PHOTO DOCUMENTATION



Photo 3: back view of product



Photo 4: side view of product

Attachment No.3 PHOTO DOCUMENTATION

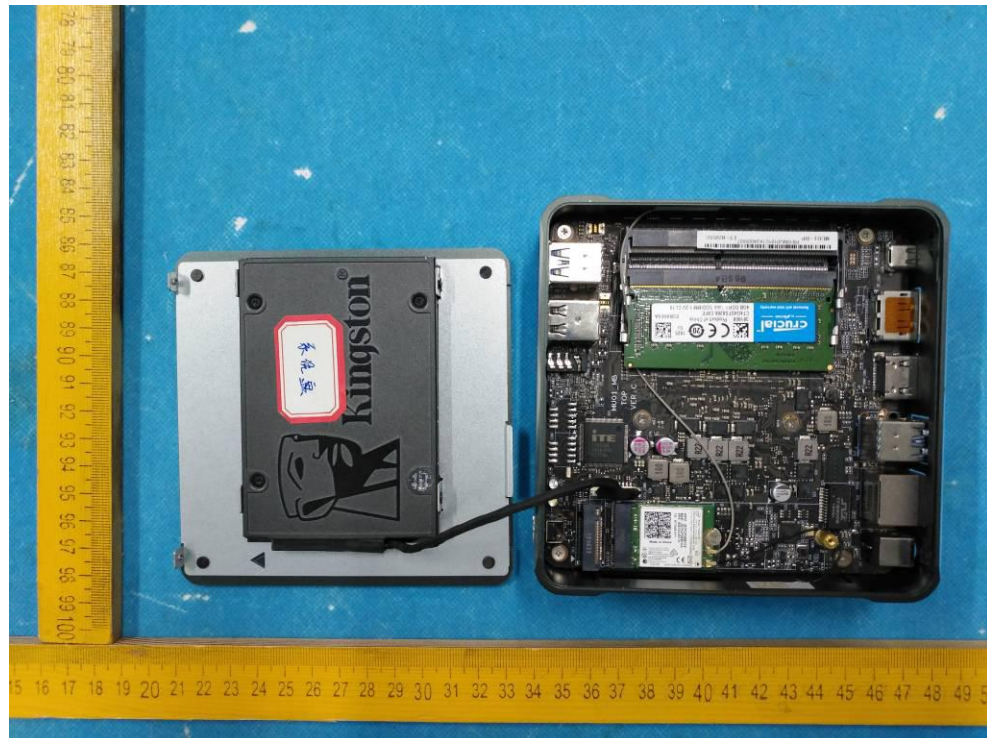


Photo 5: open view of the product



Photo 6: Main PCB components side view

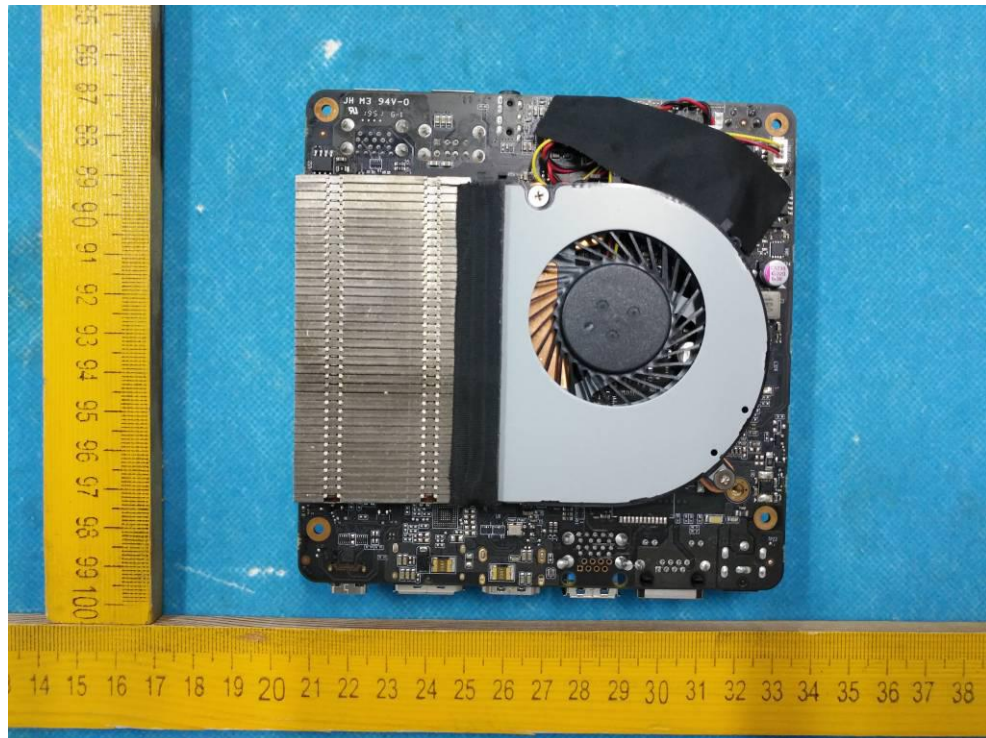
Attachment No.3 PHOTO DOCUMENTATION

Photo7: Main PCB trace side view



Photo 7: Sample accessories adapter view

----- End of the test report -----