TEST REPORT

SCOPE OF WORK
COMMISSION REGULATION (EU) No 617/2013 (ErP Lot 3)

PRODUCT/MODEL
Notebook /GS7AG0R

DESCRIPTION OF REGULATION

COMMISSION REGULATION (EU) No 617/2013 (ErP Lot 3) 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

DESCRIPTION OF TEST METHODS AND STANDARDS

EN 62623:2013 Desktop and notebook computers - Measurement of energy consumption

SAMPLE #	SERIEL #	DATE	CONDITION
		2022/03/25	--

Page1-5: ErP Report from safety

1. General Information:

1. Applicant/address:		TONGFANG HONGKONG (SUZHOU) LIMITED NO. 10 Plant, Jianwu Phase III, Western Zone, Comprehensive Bonded Zone, NO.200, Suhong Middle Road, Suzhou Industrial Park
2. Model name:		GS7AG0R

3. Year of Manufacture: 2022

2. General Technical Information:

1.	Manufacturer/address:	Same as applicant
2.	Product type	☐Desktop ☐All In One Tablet ☒Notebook ☐Workstation
3.	Operating system:	Windows 11
3.	Central processing unit:	Intel CPU I7-12700H, 14cores,2.3GHz;
4.	Diagonal screen size	17.3 (inch)
5.	Installed system memory:	16 GB*2
6.	Internal storage:	512 GB*2
7.	Discrete graphics card:	☒Yes ☐No
8.	Category:	Category C
9.	External power supply:	FSP Group Inc. / FSP180-AJBN3

3. General Technical Information:

1.	Test laboratory and Address	TONGFANG HONGKONG (SUZHOU) LIMITED NO. 10 Plant, Jianwu Phase III, Western Zone, Comprehensive Bonded Zone, NO.200, Suhong Middle Road, Suzhou Industrial Park
2.	Voltage/Freq. of power supply	230 Vac/50 Hz
3.	Ambient temp. (°C)	24
4.	Humidity (%)	55
5.	Air Speed Close to the UUT: (m/s)	0.1

4. Equipment list:

Reg. No.	Equipment Name	Brand Name	Type / Model	Cal. Date	Next Cal.
CCC061	Thermo-Hygrograph	ISUZU	TH-27R	06/04/2021	06/03/2022
CCC077	Digital Power Meter	Yokogawa	WT210 760401	06/03/2021	06/02/2022
CCC039	Timer	E-MORE	CM-173	04/23/2021	04/22/2022
CCCN0028	AC Power Source	APE	AFR-130W	--	--

5. Test result (Intel CPU I7-12700H,14 Cores,2.3GHz):
Sleep Mode Test Result (WOL Enable):

1.	Tested at:	230 Vac / 50 Hz
2.	The Average power (W)	2.81

Sleep Mode Test Result (WOL Disable):

1.	Tested at:	230 Vac / 50 Hz
2.	The Average power (W)	2.44

OFF Mode Test Result (WOL Enable):

1.	Tested at:	230 Vac / 50 Hz
2.	The Average power (W)	0.43

OFF Mode Test Result (WOL Disable):

3.	Tested at:	230 Vac / 50 Hz
4.	The Average power (W)	0.40

Idle state Test Result:

1.	Tested at:	230 Vac / 50 Hz
2.	The Average power (W)	4.21

TEC Calculation (E$_{TEC}$) for Notebook computers:

The annual total energy consumption (E$_{TEC}$) shall be determined using the following formula:
$$E_{TEC} = (8760/1000) \cdot (0.60 \cdot P_{off} + 0.10 \cdot P_{sleep} + 0.30 \cdot P_{idle}) = \underline{15.79} \ (kWh/y)$$

Ecodesign requirement:

The annual total energy consumption (ETEC in kWh/year) shall not exceed:
- (a) Category A computer: 27.00.
- (b) Category B computer: 36.00.
- (c) Category C computer: 60.50.

The following capability adjustments apply:
- (a) memory: 0,4 kWh/year per GB over base, where base memory is 4 GB.
- (b) additional internal storage: 3 kWh/year.
- (c) discrete television tuner: 2.1kWh/year.
- (d) discrete graphics card (dGfx) (for the first and each additional discrete graphics card (dGfx))discrete graphics card (dGfx) for the first and each additional discrete graphics card (dGfx):

	dGfx category	TEC allowance (kWh/year)
First discrete graphics card (dGfx)	G1	7
	G2	11
	G3	13
	G4	20
	G5	27
	G6	33
	G7	61
Each additional discrete graphics card (dGfx)	G1	4
	G2	6
	G3	8
	G4	12
	G5	16
	G6	20
	G7	36

$$\text{ETEC MAX} = 60.50 + 0.4*(32-4) + 3 + 61 = 135.7 \text{ kWh/year}$$

Test Summary:

When tested at 230 Vac, 50 Hz:

Ecodesign requirement:

E_{TEC_MAX} = 135.7 kWh/year

TEC Calculation (E_{TEC}) for Notebook computers (Intel CPU i7-12700H,14 cores, 2.3GHz):

E_{TEC} = 15.79kWh/year

Summary:

Intel CPU i7-11800H, 8 Cores,2.3GHz	E_{TEC}	Sleep Mode (W)		Off Mode (W)		Idle
		WOL Enable	WOL Disable	WOL Enable	WOL Disable	
Requirement	135.7	3.7	3	1.70	1	N/A
Result	15.79	2.81	2.44	0.43	0.40	4.21

The measurements of Poff, Psleep and Pidle for calculation of E_{TEC} of notebook computers are refer to EN 62623:2013

The test result of UUT complies with the limits of COMMISSION REGULATION (EU) No 617/2013 (ErP Lot 3)

Verdict	Pass

The results only relate to the item tested

Page5-7: Power Consumption from Power/PM/EE

I. Power Consumption

1. Sleep mode with WOL enabled power demand (Watts)

Model	GS7AG0R
Watts	2.81

2. Off mode with WOL enabled power demand (Watts)

Model	GS7AG0R
Watts	0.43

3. Internal power supply efficiency at 10 %, 20 %, 50 % and 100 % of rated output power

80%

4. External Power Supply Efficiency

Efficiency

1. Specification:

1-1

DOE(Level VI):

(1)115Vac / 0A load ≦0.21W

(2)115Vac / 25%,50%,75%,100% load ≧88%

(Average Active Mode Efficiency ,Warm up 30 minutes later，DC Cable≦1800 mm,16AWG)

Erp(Tier 2):

(1)230Vac / 0A load ≦0.15W

(2)230Vac / 25%,50%,75%,100% load ≧89%

(Average Active Mode Efficiency ,Warm up 30 minutes later，DC Cable≦1800 mm,16AWG)

1-2

Efficiency: (Warm up 10minutes later)

100Vac / 9.23A load	Efficiency ≧88%
240Vac / 9.23A load	Efficiency ≧89%

2. Test Condition:

AC Input: 100Vac/115Vac/230Vac/240Vac

Frequency: 60Hz/50Hz

Ambient Temp: 25℃

Loading	+19.5V
MIN	0A
10%FL	0.923A
25%FL	2.3075A
50%FL	4.615A
75%FL	6.9225A
FL	9.23A

3. Test Record:

Load	No load 0%	Active power values 10%	25%	50%	75%	100%	No load 0%	Active power values 10%	25%	50%	75%	100%
		115V/60Hz						230V/50Hz				
Iout (A)		0.9018	2.2781	4.5844	6.8906	9.1988		0.9018	2.2781	4.5844	6.8925	9.2006
Vout (V)	--	19.810	19.720	19.572	19.416	19.256	--	19.814	19.724	19.578	19.426	19.266
Pout (W)		17.866	44.924	89.726	133.79	177.13		17.870	44.933	89.753	133.89	177.26
Fin (Hz)	60	60	60	60	60	60	50	50	50	50	50	50
Iin (A)	0.0206	0.2052	0.4539	0.8764	1.2842	1.7169	0.0267	0.1285	0.2530	0.4663	0.6736	0.8816
Vin (V)	115	115	115	115	115	115	230	230	230	230	230	230
Pin (W)	0.062	21.605	50.171	97.594	145.97	195.44	0.0645	21.629	50.125	97.035	144.47	192.59
THDv (%)	0.086	0.0649	0.0549	0.0549	0.0535	0.0668	0.0382	0.0259	0.0214	0.0232	0.0301	0.0386
PF (W/VA)	0.026	0.9116	0.9579	0.9661	0.9873	0.9898	0.0104	0.7303	0.8599	0.9033	0.9314	0.9489
Power consumed (W)	0.062	3.739	5.2469	7.8681	12.182	18.308	0.0645	3.7593	5.1918	7.2816	10.576	15.331
Efficiency (%)	--	82.694	89.542	91.938	91.656	90.631	--	82.621	89.642	92.495	92.677	92.04
Average Efficiency (%)	--	--	90.94175				--	--	91.7135			

Vin(Vac)	Fin(Hz)	Load	Vinrms(V)	Iinrms(A)	Pin(W)	Pout(W)	PF	Eff.(%)	Result
100	60	100%	99.996	1.9880	197.15	177.42	0.9917	89.992	PASS
240	50		240.51	0.8461	192.52	177.35	0.9460	92.120	PASS

5. Minimum number of loading cycles that the batteries can withstand (applies only to notebook computers): **500 Cycles**

6. User information on the energy-saving potential of power management functionality

https://www.energystar.gov/products/low_carbon_it_campaign/power_management_computer

Page8-10: Noise Level Report from PT

Noise Levels (the declared A-weighted **sound pressure** level) of the computer
***The data of this section (Noise level) can be applied to GS7AG0R

1. Samples Configuration:

2. Configuration:	Brand/Frequency/Capacity/Description
P/N	GS7AG0R
Main Board Version	VB
Windows version	Windows 11
BIOS/EC Version	B.0.03/EC0.05
CPU	Intel.I7-12700H (TDP=45W)
Memory	D4,3200,8GB,CT8G4SFS832A.M8FR,CRUCIAL
VGA	NVIDIA GeForce RTX 3060 Laptop GPU (TGP=115W)
SSD	SSD,PCIeG4X4,512G,MZVL2512HJQ-00B00 .SS
Wi-Fi	INTEL. AX201
ADAPTER	180w adapter

2. Test Equipment:

2-1 Semi-Anechoic Chamber: Acoustic testing for system sound pressure/quality shall be testing in a qualified Semi-anechoic chamber meeting the requirements of ISO-3744.

2-2 Microphone: Follow ISO-3744

2-3 Fan power is provided by system. Testing in heavy load. light load & idle mode to record sound pressures and sound quality.
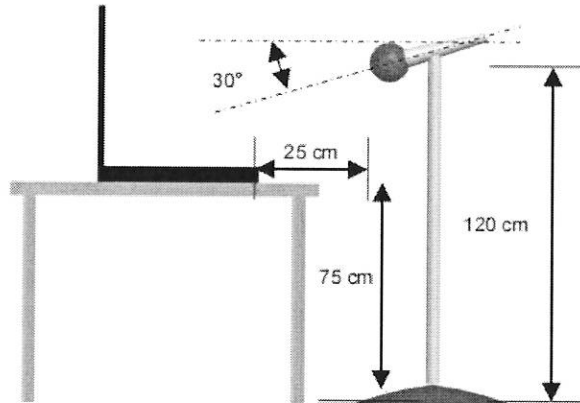
3. Test Condition

3-1 Environment Temperature: 23+-2degC

4. Test Standard Reference

4-1 Sound pressure standard: follow ISO7779-chapter 8.6.3-C
4-2 It is 25cm away from test machine for four edges.
4-3 Show as below picture.

4-4.Sound pressure SPEC

NB (Commercial) /AIO	Front(dBA)SPEC
Game mode	46
Office mode	35

5. Acoustic test report

Sound pressure

Semi-Anechoic Chamber	MiTAC	
	Front(dBA)	SPEC
Game mode	45.1	46
Office mode	32.5	35

6. Conclusion:

Sound pressure

Gaming mode test is under spec

Office mode test is under spec

Page11-12: MS OS Setting Description from FAE Huaizhi
MS OS Setting

1.	Description of how sleep and/or off mode was selected or programmed;	The sleep and/or off mode was selected or be programmed by operating system power management function.
2.	Sequence of steps for achieving a stable condition with respect to power demand;	Plug in power supply (adapter) and press power button to turn on system
3.	Sequence of events required to reach the mode where the equipment automatically changes to sleep and/or off mode;	The power management function allow the system automatically switching from idle mode to display sleep mode , then system sleep mode will be active after a period of user inactivity(idle-> display off ->sleep).
4.	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;	The system for a period no user activity or network activity (base on user power management settings). user power management settings:" Control Panel\Hardware and Sound\Power Options\Edit Plan Settings"
5.	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;	The system for a period no user activity or network activity (base on user power management settings) user power management settings:" Control Panel\Hardware and Sound\Power Options\Edit Plan Settings"
6.	The length of time before the display sleep mode is set to activate after user inactivity;	The system for a period no user or network activity (up to 10 minutes).
7.	User information on how to enable the power management functionality;	User power management settings:" Control Panel\Hardware and Sound\Power Options\Edit Plan Settings" or Press this key combination (Fn+F1) to enter sleep mode

*If a notebook computer is operated by battery/ies that cannot be accessed and replaced by a non-professional user, in addition to the information specified in point 7.1 of Regulation 617/2013/EU, manufacturers shall provide in the technical documentation, and make available on free-access websites and on the external packaging of the notebook computer, the following information.

**"The battery[ies] in this product cannot be easily replaced by users themselves

Signed by   ....

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TONGFANG HONGKONG LIMITED