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

PRODUCT/MODEL
Notebook /GM7AGFM/GM7AG5M

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
		2021/12/24	--

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:	GM7AGFM

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. / FSP150-ABBN3

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)	1.56

Sleep Mode Test Result (WOL Disable):

1.	Tested at:	230 Vac / 50 Hz
2.	The Average power (W)	1.49

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)	0.41

Idle state Test Result:

1.	Tested at:	230 Vac / 50 Hz
2.	The Average power (W)	11.04

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)*(0.60*P_{off} + 0.10*P_{sleep} + 0.30*P_{idle}) =32.64 (kWh/y)

Ecodesign requirement:

The annual total energy consumption (E_{TEC} 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

$E_{TEC\ MAX}$ = 60.50+0.4*(32-4)+3+33 = 107.7 kWh/year

Test Summary:

When tested at 230 Vac, 50 Hz:

Ecodesign requirement:

E_{TEC_MAX} = 107.7 kWh/year

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

E_{TEC} = 32.64kWh/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	107.7	3.7	3	1.70	1	N/A
Result	32.64	1.56	1.49	0.43	0.41	11.04
The measurements of P_{off}, P_{sleep} and P_{idle} 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	GM7AG5M/GM7AGFM
Watts	1.56

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

Model	GM7AG5M/GM7AGFM
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 / 7.89A load	Efficiency ≧87%
240Vac / 7.89A load	Efficiency ≧89%

2. Test Condition:

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

Frequency: 60Hz/50Hz

Ambient Temp: 25℃

Loading	+19V
MIN	0A
10%FL	0.789A
25%FL	1.9725A
50%FL	3.945A
75%FL	5.9175A
FL	7.89A

3. Test Record:

	115V/60Hz						230V/50Hz					
	No load	Active power values					No load	Active power values				
Load	0%	10%	25%	50%	75%	100%	0%	10%	25%	50%	75%	100%
Iout (A)		0.76875	1.9519	3.9300	5.8931	7.8731		0.77063	1.9538	3.9319	5.8950	7.8750
Vout (V)		19.030	18.954	18.830	18.704	18.576	--	19.032	18.958	18.836	18.710	18.584
Pout (W)		14.629	36.996	74.002	110.22	146.25		14.667	37.040	74.061	110.295	146.349
Fin (Hz)	60	60	60	60	60	60	50	50	50	50	50	50
Iin (A)	0.019137	0.17080	0.37890	0.73260	1.0637	1.4202	0.02529	0.1078	0.2105	0.3870	0.5578	0.7294
Vin (V)	115.50	115.45	115.39	115.28	115.17	115.06	230.32	230.30	230.27	230.22	230.16	230.11
Pin (W)	0.064000	17.932	41.664	80.983	120.67	161.51	0.071	18.016	41.555	80.399	119.28	159.03
THDv (%)	1.0598	31.364	26.764	26.521	14.746	13.906	0.1147	49.849	39.588	37.770	33.153	28.523
PF (W/VA)	0.028900	0.90880	0.95290	0.95870	0.98490	0.98830	0.0121	0.7257	0.8573	0.9024	0.9291	0.9475
Power consumed (W)	0.064000	3.3027	4.6677	6.9811	10.445	15.259	0.071	3.3564	4.5239	6.3587	9.0045	12.711
Efficiency	--	81.580	88.796	91.380	91.340	90.552	--	81.379	89.116	92.093	92.456	92.009
Average Efficiency	--	--	90.53				--	--	91.44			

Vin(Vac)	Fin(Hz)	Load	Vinrms(V)	Iinrms(A)	Pin(W)	Pout(W)	PF	Eff.(%)	Result
100	60	100%	100.080	1.648	163.400	146.205	0.991	89.477	PASS
240	50		241.270	0.702	160.059	145.944	0.944	91.182	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

Page8-16: 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 GM7AG5M&GM7AGFM

GM7AG5M I5-12500H:

1. Samples Configuration:

Configuration:	Brand/Frequency/Capacity/Description
P/N	GM7AG5M
Main Board Version	VB
Windows version	Windows11
BIOS/EC Version	B.0.04/ 0.16.00.00
CPU	Intel,I5-12500H (TDP=45W)
Memory	D4,3200,16G,2G*8,AO1P32NCSV1-BEBS,ADATA
VGA	N18P-G61-A GTX 1650 (TGP=60W)
SSD	SSD,PCIe*4,1TB,MZVLQ1T0HALB-00000,SS
Wi-Fi	INTEL, AX201
ADAPTER	150w 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

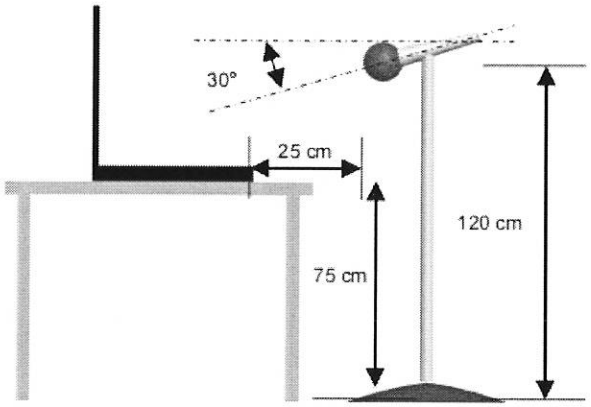
2-3 Fan power is provided by system. Testing in heavy load, light load & idle mode to record sound pressures and sound quality.

3. Test Condition

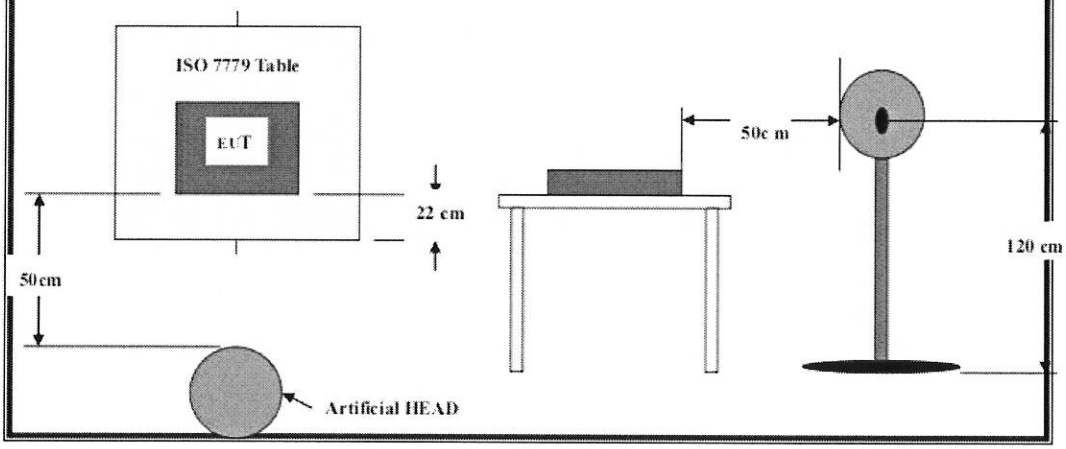
3-1 Environment Temperature: 23+-2degC

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 quality standard:



4-5.Sound pressure SPEC

NB (Commercial) /AIO	Front(dBA)SPEC
Turbo mode	50
Game mode	46
Office mode	35

5. Acoustic test report

Sound pressure

Semi-Anechoic Chamber	MiTAC	
	Front(dBA)	SPEC
Turbo mode	47.5	50
Game mode	44.4	46
Office mode	34.7	35

6. Conclusion:

Sound pressure

Turbo mode test is under spec

Gaming mode test is under spec

Office mode test is under spec

GM7AGFM I5-12500H:

1. Samples Configuration:

Configuration:	Brand/Frequency/Capacity/Description
P/N	GM7AGFM
Main Board Version	VB
Windows version	Windows11
BIOS/EC Version	B.0.04/ 0.16.00.00
CPU	Intel,I5-12500H (TDP=45W)
Memory	D4,3200,16G,2G*8,AO1P32NCSV1-BEBS,ADATA
VGA	NV,GN20-P1 RTX 3050 Ti (TGP=80W)
SSD	SSD,PCIe*4,1TB,MZVLQ1T0HALB-00000,SS
Wi-Fi	INTEL, AX201
ADAPTER	150w adapter

2. Test Equipment:

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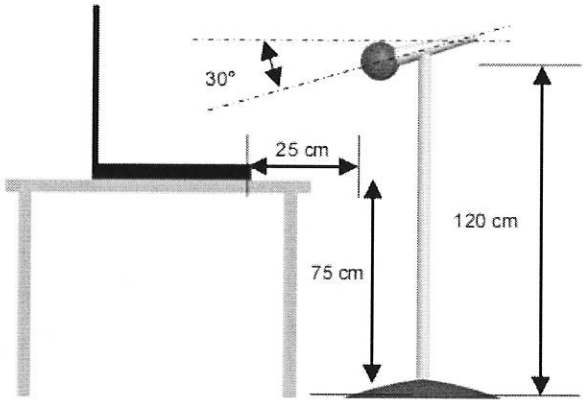

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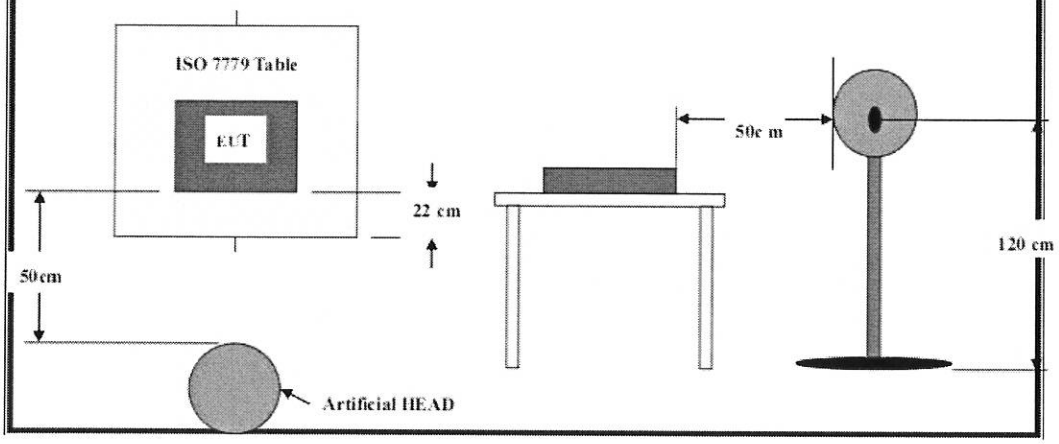

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Semi-Anechoic Chamber	MiTAC	
	Front(dBA)	SPEC
Turbo mode	47.7	50
Game mode	44.1	46
Office mode	34.8	35

6. Conclusion:

Sound pressure

Turbo mode test is under spec

Gaming mode test is under spec

Office mode test is under spec

GM7AGFM I7-12700H:

1. Samples Configuration:

Configuration:	Brand/Frequency/Capacity/Description
P/N	GM7AGFM
Main Board Version	VB
Windows version	Windows11
BIOS/EC Version	B.0.04/ 0.16.00.00
CPU	Intel.I7-12700H (TDP=45W)
Memory	D4.3200.16G.2G*8.AO1P32NCSV1-BEBS.ADATA
VGA	NV.GN20-P1 (TGP=80W)
SSD	SSD.PCIe*4.1TB.MZVLQ1T0HALB-00000.SS
Wi-Fi	INTEL, AX201
ADAPTER	150w adapter

2. Test Equipment:

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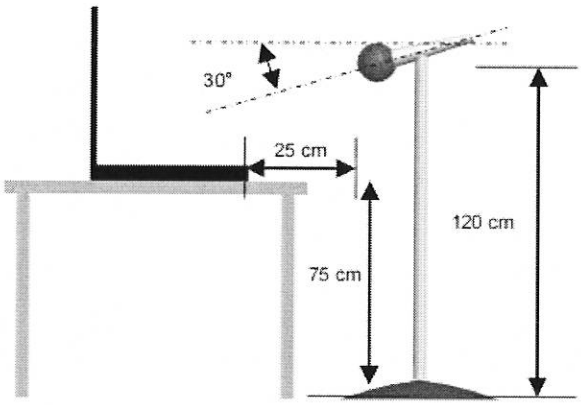

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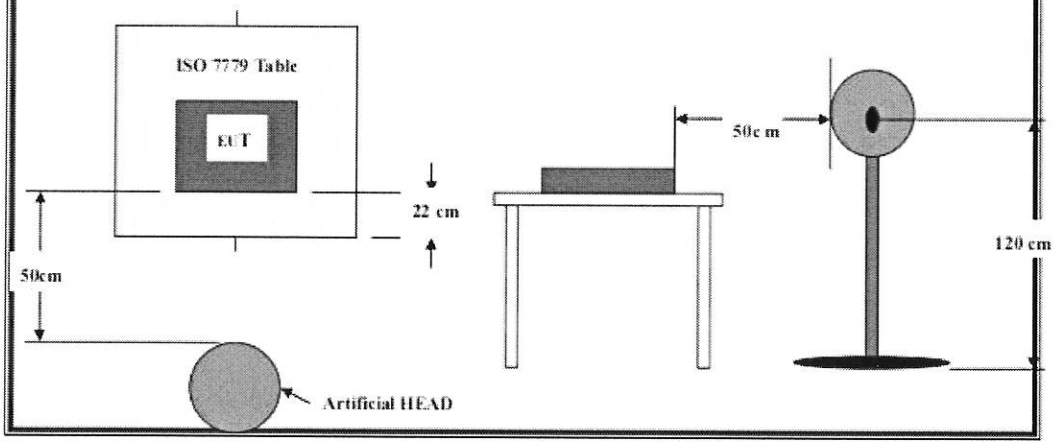

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Turbo mode	47.6	50
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6. Conclusion:

Sound pressure

Turbo mode test is under spec

Gaming mode test is under spec

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Page17-18: 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 .....

evelyn

TONGFANG HONGKONG LIMITED