

ERP Test Report

Report No.: AGC16419240901NS01

PRODUCT DESIGNATION: 2 port USB charger EU plug

BRAND NAME : N/A

MODEL NAME : M06879

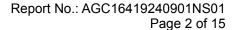
APPLICANT : MID OCEAN BRANDS B.V.

DATE OF ISSUE : Oct. 18, 2024

STANDARD(S) : (EU) 2019/1782

REPORT VERSION: V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd.





TEST REPORT (EU) 2019/1782

Ecodesign requirements for no-load condition electric power consumption and average active efficiency Implementation Measure EC Regulation (EU) 2019/1782

active efficiency implement		<u> </u>
Report Reference No	AGC16419240901NS0	1
Tested by (+ signature):	Eden Luo	Eden Luo
Reviewed by (+ signature)	Dylon Yan	pylon Yan
Approved by (+ signature):	Byron Wang (Authorized Officer)	Eden Luo Pylon Yan Byron Wang
Date of issue	Oct. 18, 2024	
Total number of pages:	Total 16 pages	
Testing Laboratory		
Name:	Attestation of Global Co	ompliance (Shenzhen) Co., Ltd.
Address		eng Industrial Park, Chongqing Road, nai Street, Bao 'an District, Shenzhen,
Testing location / address:	Same as above	
Applicant		
Name:	MID OCEAN BRANDS	B.V.
Address	7/F. Kings Tower, 111 Ki Kowloon, Hong Kong	ing Lam Street, Cheung Sha Wan,
Manufacturer		
Name:	MID OCEAN BRANDS	B.V.
Address	7/F. Kings Tower, 111 Ki Kowloon, Hong Kong	ing Lam Street, Cheung Sha Wan,
Factory		
Name	MID OCEAN BRANDS	B.V.
Address	7/F. Kings Tower, 111 Ki Kowloon, Hong Kong	ing Lam Street, Cheung Sha Wan,
Test specification		
Standard:	(EC) 2019/1782 Test method: EN 50563:	:2011+A1:2013
Test procedure:	EU-Directive	
Procedure deviation	N/A	
Non-standard test method:	N/A	



Report No.: AGC16419240901NS01

Page 3 of 15

lest F	Report	Form/	blank	test	report
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Test Report Form No....... AGCEU2019/1782A1

TRF originator..... AGC

Master TRF...... 2019-11

Test item

Test item description...... 2 port USB charger EU plug

Brand Name N/A

Model/Type reference..... MO6879

Ratings Input: 100-240V~ 50-60Hz, 0.8A

USB-A Output: 5.0V==3.0A, 9.0V==2.0A, 12.0V==1.5A Type-C Output: 5.0V==3.0A, 9.0V==2.0A, 12.0V==1.5A

Max: 18W

Test item particulars

Declared average active efficiency 82.67%

Declared efficiency at load 10% N/A

Possible test case verdicts

Test case does not apply to the test object ... N (/A) Test object does meet the requirement ... P (ass) Test object does not meet the requirement ... F (ail)

Attachments

Attachment A Photos of product

Testing

Date of receipt of test item Sep. 09, 2024

Date(s) of performance of tests Sep. 13, 2024–Sep. 24, 2024

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.

All models are identical except model name, plastic appearance and color which have no effect on test result.

Report Revise Record:						
Report Version	Revise Time	Issued Date	Valid Version	Notes		
V1.0	1	Oct. 18, 2024	Valid	Initial release		



Report No.: AGC16419240901NS01

Page 4 of 15

Summary of testing

The product meets the stage 1 of (EU) 2019/1782 Annex II

	Stage 1
Start Date	01. Apr., 2020

Copy of Marking Plate

MOB/MO6879

PO BOX 644,6710 BP(NL)

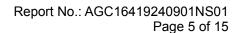
Input: AC 100-240V 50/60Hz 0.8A Output USB-A:5V=3A 9V=2A 12V=1.5A Output Type-C:5V=3A 9V=2A 12V=1.5A

MAX: 18W

Made in China 41-110903



Remark: the final marking shall have rated output current, voltage and power in it.

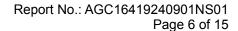




Section	Requirement + Test	Result - Remark	Verdict
0	General		Р
0.1	Ambient condition met requirement of: Ambient temperature (23 +5□) Airspeed ≤0.5m/s	Ambient: 24.5C Airspeed: 0.1m/s	Р
0.2	Where the product has an ambient light sensor that affects the power consumption, the test shall be carried out 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.		N
0.3	Power source meets requirement of: Voltage 230V +1% Frequency 50Hz + 1% THD value<2% Ratio of peak value of test voltage to rms of 1.34 to 1.49	Voltage: 230.0V Frequency: 50Hz THD(voltage): <2% Crest factor: 1.41	Р
0.4	Power measurement accuracy		Р
	Any power measurements recorded, as well as any power measurement equipment utilized for testing, shall conform to the uncertainty and resolution requirements outlined in Clause 4, "General conditions for measurements," as well as Annexes B, "Notes on the measurement of low power modes," and D, "Determination of uncertainty of measurement," of IEC 62301:2011.		Р
0.5	Test circuit		
	- Test circuit acc. To Fig.1 is used		Р
	AC Power meter UUT(Unit Under Test) Output power meter		
	Fig.1 Tes	t circuit	

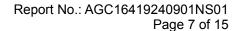
Annex I	Ecodesign requirements for external power supplies	Р

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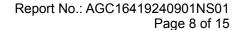


Section	Requirement + Test Result -						Result - Remark	Verdict
1.	Energy e	fficiency re	quire	ement	is:			Р
(a)	From 1 A following		the n	o-load	d condition	power con	sumption shall not exceed the	Р
		AC-AC external power supplies, except low voltage and multiple voltage output external power supplies	externi sup exce volta mu voltag	C-DC al power plies, ppt low ge and ltiple ge output al power pplies	Low voltage external power supplies	Multiple voltage output external power supplies	See table 1	Р
	P _O ≤ 49,0 W	0,21 W	0,10 W	V	0,10 W	0,30 W		
	P _O > 49,0 W	0,21 W	0,21 W	V	0,21 W	0,30 W		
(b)	From 1 A values:	pril 2020,	the a	verag	e active ef	ficiency sha	all be not less than the following	Р
		AC-AC external power supplies, except low voltage and multiple voltage output external power supplies	extern sup exce volta mu voltag extern	C-DC al power pplies, ept low age and ultiple ge output al power pplies	Low voltage external power supplies	Multiple voltage output external power supplies	ет	Р
	P _O ≤ 1,0 W	0,5 × P _O /1W+ 0,160	0,5 × 1 0,160	P _O /1W+	0,517 × P _O /1W+ 0,087	0,497 × P _O /1W+ 0,067		
	$\frac{1 \text{ W} < P_{O} \le}{49,0 \text{ W}}$	0,071 × ln(P _O /1W) – 0,0014 × P _O /1W+ 0,67	0,071 ln(P _O / 0,001 ² P _O /1W	1W) –	$\begin{array}{c} 0.0834 \times \\ ln(P_O/1W) - \\ 0.0014 \times \\ Po/1W + 0.609 \end{array}$	0,075 × ln(P _O /1W) + 0,561		
	P _O > 49,0 W	0,880	0,880		0,870	0,860		
2.	Information	on require	ment	s:				Р
(a)	from 1 Ap	oril 2020, tl	ne na	amepl	ate shall in	clude the fo	ollowing information:	Р
	Nameplate information		Unit		Notes		See "copy of marking plate"	Р
	Output power	er X,X	w	output o load cor available	where more than or more than one of adition 1 are meas e Output voltage to power shall be g	output voltage at sured, the sets of - Output current		
	Output volta	ge X,X	V	output o load cor available	where more than one of more than one of adition 1 are mease Output voltage at power shall be g	output voltage at sured, the sets of - Output current		
	Output curre	nt X,X			output voltage at sured, the sets of - Output current			





Section	Requiremen	nt + Tes	t		Result - Remark	Verdict	
	Information published	Value and precision	Unit	Notes	See table 3	Р	
	Manufacturer's name or trade mark, commercial registration number and address	-	-	-			
	Model identifier	-	-	-			
	Input voltage	Х	V	Specified by the manufacturer. Shall be a value or a range.			
	Input AC frequency	Х	Hz	Specified by the manufacturer. Shall be a value or a range.			
	Output voltage	X,X	v	Nameplate output voltage. Shall indicate whether is AC or DC. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current Output power shall be published.			
	Output current	X,X	A	Nameplate output current. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published.			
	Output power	X,X	W	Nameplate output power. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published.			
	Average active efficiency	x,x	%	Declared by the manufacturer based on the value calculated as arithmetical mean of efficiency at load conditions 1-4. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the average active efficiency declared for the lowest output voltage.			
	Efficiency at low load (10 %)	x,x	%	Declared by the manufacturer based on the value calculated at load condition 5. External power supplies with a nameplate output power of 10 W or less shall be exempted from this requirement. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the value declared for the lowest output voltage.			
	No-load power consumption	X,XX	W	Declared by the manufacturer based on the value measured for load condition 6.			
	The relevan	nt load c	ondi	tions are as follows:		Р	





Section	Requirement + Test		Result - Remark	Verdict
	Percentage of nameplate output cu	rrent		Р
	Load condition 1	100 % ± 2 %		
	Load condition 2	75 % ± 2 %		
	Load condition 3	50 % ± 2 %		
	Load condition 4	25 % ± 2 %		
	Load condition 5	10 % ± 1 %		
	Load condition 6	0 % (no-load condition)		
(c)	the purposes of confo	e technical documentation for prmity assessment pursuant ain the following elements:		Р
(1)	for external power su output power greater	pplies with a nameplate than 10 watts:		N
	Reported Quantity Root mean square output current (mA) Root mean square output voltage (V) Active output power (W)	Description Measured at load conditions 1-5		N
	Root mean square input voltage (V) Root mean square input power (W) Total harmonic distortion of the input current True power factor	Measured at load conditions 1-6		
	Power consumed (W)	Calculated at load conditions 1-5, measured at load condition 6		
	Active mode efficiency Average active efficiency	Calculated at load conditions 1-5 Arithmetical mean of efficiency at load conditions 1-4		
	more than one output	than one physical output or t voltage at load condition 1 levant reported quantities each measurement.		N
	The relevant load cor 2(b).	nditions are set out in point		N
(2)	for external power su output power of 10 wa	pplies with a nameplate atts or less:		Р
	Reported Quantity Root mean square output current (mA) Root mean square output voltage (V) Active output power (W)		See table 1	Р
	Root mean square input voltage (V) Root mean square input power (W) Total harmonic distortion of the input current True power factor			
	Power consumed (W) Active mode efficiency Average active efficiency	Calculated at load conditions 1-4, measured at load condition 6 Calculated at load conditions 1-4 Arithmetical mean of efficiency at load conditions 1-4		
	In cases where more more than one output	than one physical output or voltage at load condition 1 levant reported quantities each measurement.		Р
	The relevant load cor	nditions are set out in point		Р



Report No.: AGC16419240901NS01

Page 9 of 15

Section	Requirement + Test	Result - Remark	Verdict
	2(b).		

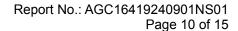
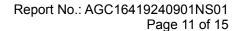




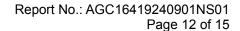
Table 1: Measureme	ent and calcul	ation				Р		
To at Itama	Measure at load condition (Percentage of nameplate output current							
Test Item	100%	75%	50%	25%	*10%	0%		
USB-A Output: 5.0VI	DC, 2.0A			•				
Output current (mA)	2000	1500	1000	500		0		
Output voltage (V)	5.05	5.08	5.12	5.15		5.17		
Active output power (W)	10.10	7.62	5.08	2.56				
Input voltage (V)	230	230	230	230				
Input current (A)	0.173	0.140	0.100	0.058				
Input power (W)	12.00	9.06	6.11	3.13		0.08		
THD (current) (%)	98.066	98.563	99.041	102.73				
THD (voltage) (%)	0.262	0.281	0.308	0.295				
True power factor	0.302	0.282	0.257	0.217				
Power Consumed (W)	1.90	1.44	0.99	0.56				
Active mode Efficiency	84.16%	84.10%	83.79%	82.10%				
Average active Efficiency		82.	67%					
USB-A Output: 12.0\	/DC, 1.50A							
Output current (mA)	1500	1125	750	375		0		
Output voltage (V)	12.26	12.28	12.30	12.33		12.35		
Active output power (W)	18.39	13.81	9.22	4.62				
Input voltage (V)	230	230	230	230				
Input current (A)	0.257	0.215	0.161	0.098				
Input power (W)	21.10	16.12	10.65	5.36		0.08		
THD (current) (%)	96.19	96.85	97.54	98.45				
THD (voltage) (%)	0.262	0.281	0.308	0.295				
True power factor	0.302	0.282	0.257	0.217				
Power Consumed (W)	2.71	2.31	1.43	0.74				
Active mode Efficiency	87.15%	85.66%	86.57%	86.19%				
Average active		86.	39%					

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Efficiency					
Type-C Output: 5.0\	/DC, 2.0A				
Output current (mA)	2000	1500	1000	500	 0
Output voltage (V)	5.03	5.06	5.08	5.12	 5.14
Active output power (W)	10.06	7.59	5.08	2.56	
Input voltage (V)	230	230	230	230	
Input current (A)	0.173	0.140	0.108	0.062	
Input power (W)	12.01	9.04	6.08	3.12	 0.08
THD (current) (%)	98.066	98.563	99.041	102.73	
THD (voltage) (%)	0.262	0.281	0.308	0.295	
True power factor	0.302	0.282	0.257	0.217	
Power Consumed (W)	1.95	1.45	1.00	0.56	
Active mode Efficiency	83.76%	83.96%	83.55%	82.05%	
Average active Efficiency		83.5	33%		
Type-C Output: 12.0)VDC, 1.5A				
Output current (mA)	1500	1125	750	375	 0
Output voltage (V)	12.26	12.28	12.30	12.33	 12.30
Active output power (W)	18.39	13.81	9.22	4.62	
Input voltage (V)	230	230	230	230	
Input current (A)	0.267	0.227	0.168	0.106	
Input power (W)	22.62	17.28	11.45	6.41	 0.08
THD (current) (%)	96.19	96.85	97.54	99.33	
THD (voltage) (%)	0.245	0.243	0.284	0.289	
True power factor	0.381	0.340	0.309	0.258	
Power Consumed (W)	2.27	1.98	1.22	1.28	
Active mode Efficiency	89.96%	88.54%	89.34%	80.03%	
Average active Efficiency			86.96%		
USB-A Output: 5.0V	/DC, 1.6A +Type	e-C Output: 5.0\	/DC, 1.6A		
Output current (mA) (USB-A	1600	1200	800	400	 0





Output)					
Output voltage (V)	5.05	5.08	5.09	5.13	 5.16
Active output power (W)	8.08	6.09	4.07	2.05	
Output current (mA) (Type-C Output)	1600	1200	800	400	 0
Output voltage (V)	5.05	5.08	5.09	5.13	 5.15
Active output power (W)	8.08	6.09	4.07	2.05	
Input voltage (V)	230	230	230	230	
Input current (A)	0.310	0.248	0.168	0.103	
Input power (W)	23.09	17.19	11.87	5.85	 80.0
THD (current) (%)	96.19	96.85	97.54	99.33	
THD (voltage) (%)	0.245	0.243	0.284	0.289	
True power factor	0.381	0.340	0.309	0.258	
Power Consumed (W)	3.74	1.98	1.70	0.73	
Active mode Efficiency	87.31%	88.48%	85.67%	87.52%	
Average active Efficiency	87.24%				

Supplementary information:

- Input cable: --
- Output cable: --
- * 10% load test only for external power supply with a name plate output power great than 10W

Table 2: Test results summary					Р
Rated Output	No Load Power Consumption (W)		Average Active Efficiency (%)) /a adiat
	Measure	Limit	Measure	Limit	Verdict
USB-A Output					
5.0VDC, 2.0A	0.08	0.1	82.67	81.95	Р
12.0VDC, 1.5A	0.08	0.1	86.39	86.00	Р
Type-C Output					
5.0VDC,2.0A	0.08	0.1	83.33	81.95	Р
12.0VDC, 1.5A	0.08	0.1	86.96	86.00	Р
Total Output					
5.0VDC, 1.6A and 5.0VDC, 1.6A	0.08	0.1	87.24	86.00	Р

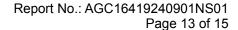
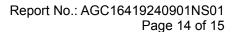




Table 3: Test equipment list				
Equipment	ID No.	Model	Calibration date	
Digital Power Meter	AGC-SA-E290	WT310E	2024.05.15	
Electronic Loading	AGC-SA-E191	3310F	2024.06.28	
Temperature & humidity recorder	AGC-SA-E138	608-H2	2024.07.09	
Anemometer	AGC-SA-E302	405-V1	2024.07.21	

Table 4: Information in instru access websites of manufact			
Information published	Value and precision	Unit	Notes
Manufacturer's name or trade mark, commercial registration number and address		-	-
Model identifier		-	-
Input voltage	100-240	V	Specified by the manufacturer. Shall be a value or a range.
Input AC frequency	50/60	Hz	Specified by the manufacturer. Shall be a value or a range.
Output voltage	5	V	Nameplate output voltage. Shall indicate whether is AC or DC.
			In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current- Output power shall be published.
Output current	2.0	A	Nameplate output current. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published.
Output power	10	W	Nameplate output power. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be





			published.
Average active efficiency	82.67	%	Declared by the manufacturer based on the value calculated as arithmetical mean of efficiency at load conditions 1-4.
			In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the average active efficiency declared for the lowest output voltage.
Efficiency at low load (10 %)	1	%	Declared by the manufacturer based on the value calculated at load condition 5.
			External power supplies with a nameplate output power of 10 W or less shall be exempted from this requirement.
			In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the value declared for the lowest output voltage.
No-load power consumption	0.08	W	Declared by the manufacturer based on the value measured for load condition 6.



Attachment A Photos of product



Fig.1-Overall view



Fig.2 —Overall view

----END OF REPORT-----

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