



ECE TYPE-APPROVAL CERTIFICATE



Communication concerning:²

Approval granted
~~Approval extended~~
~~Approval refused~~
~~Approval withdrawn~~
~~Production definitely discontinued~~

of a type of headlamp pursuant to Regulation No. 112

Approval No: **E24*112R02/00*0488*00**

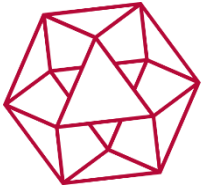
Reason for extension:

N/A

1. Trade name or mark of the device: ***HANMA ,HL, TOTRON***
2. Manufacturer's name for the type of device: ***B1536E***
Variant(s): ***N/A***
3. Manufacturer's name and address: ***Guangzhou Hanma electronics
Technology Co., Ltd
No. 8 Jianye Middle Road
Taihe Town, Baiyun District,
Guangzhou City, Guangdong Province,
China 510540***
4. If applicable, name and address of manufacturer's representative: ***N/A***
5. Submitted for approval on: ***18.06.2020***
6. Technical service responsible for conducting approval tests: ***ISOQA Technical Service Co., Ltd
60, Yong Long Road,
41257 Da-Li, Taichung,
Taiwan***
7. Date of test report issued by that service: ***18.06.2020***
8. Number of report issued by that service: ***ISOQA-20-0196-R112-HR***

¹ Distinguishing number of the country which has granted/refused/withdrawn approval (see the provisions of the Regulation concerning approval).

² Strike out which does not apply.



NSAI

Approval No: E24*112R02/00*0488*00


9. Brief description

Category as described by the relevant marking ³ :	<i>HR PL</i>
Number and category(s) of filament lamp(s):	<i>N/A</i>
Reference luminous flux used for the principal passing beam (lm):	<i>N/A</i>
Principal passing beam operated at approximately (V):	<i>N/A</i>
Measures according to paragraph 5.8 of this Regulation:	<i>N/A</i>
Number and specific identification code(s) of LED module(s) and for each LED module a statement of whether it is replaceable or not: yes / no ²	<i>2 non-replaceable LED Module (MD E24 0488 x 2; 6 LEDs each) which contains of 12 LEDs in all</i>
Number and specific identification code(s) of electronic light source control gear(s):	<i>1 control gear; part of lamp and included into the lamp body</i>
Total objective luminous flux as described in paragraph 5.9 exceeds 2000 lumens: yes / no /does not apply ²	<i>N/A</i>
The adjustment of the cut-off ⁷ has been determined at: 10 m/25 m/does not apply ²	<i>N/A</i>
The determination of the minimum sharpness of “cut-off” has been carried out at: 10 m/25 m/does not apply ²	<i>Does not apply</i>



NSAI

Approval No: E24*112R02/00*0488*00

- 10. Approval mark position: *On the lens*
- 11. Reason(s) for extension of approval: *N/A*
- 12. Approval granted/~~extended/refused/withdrawn~~² *Granted*
- 13. Place: *Dublin*
- 14. Date: *29th June, 2020*
- 15. Signature: 



16. The list of documents deposited with the Administrative Service which has granted approval, is annexed and may be obtained on request.

³ Indicate the appropriate marking selected from the list below:

- C, C, C, R, R PL, CR, CR, CR, C/R, C/R, C/R, C/, C/, C/ ,
 → ↔ → ↔ → ↔ → ↔ → ↔ → ↔
- C, PL, C PL, C PL, CR PL, CR PL, CR PL, C/R PL, C/R PL, C/R PL,
 → ↔ → ↔ → ↔ → ↔ → ↔
- C/PL, C/PL, C/PL
 → ↔
- HC, HC, HC, HR, HR PL, HCR, HCR, HCR, HC/R, HC/R, HC/R, HC/, HC/, HC/ ,
 → ↔ → ↔ → ↔ → ↔ → ↔ → ↔
- HC PL, HC PL, HC PL, HCR PL, HCR PL, HCR PL, HC/R PL, HC/R PL, HC/R PL,
 → ↔ → ↔ → ↔ → ↔
- HC/PL, HC/PL, HC/PL
 → ↔



Approval No: E24*112R02/00*0488*00

Index to the Information Package

Date of issue:	<i>29th June, 2020</i>
Date of latest amendment:	<i>N/A</i>
Reason for extension/revision:	<i>N/A</i>
1. Additional conditions, and advisory notes on legal alternatives.	
2. Test report(s)	
- numbers(s):	<i>ISOQA-20-0196-R112-HR</i>
- date of issue:	<i>18.06.2020</i>
- date of latest amendment:	<i>N/A</i>
3. Information document	
- number(s):	<i>ISOQA-20-0196-Appendix 1_Information Document</i>
- date of issue:	<i>27.03.2020</i>
- date of latest amendment:	<i>N/A</i>
Documentation:	<i>14 pages</i>



Approval No: E24*112R02/00*0488*00

Appendix: **Additional conditions, and advisory notes on legal alternatives.**

A: Additional conditions:

1. The device, Type *B1536E*, shall be marked as prescribed in the regulation.
2. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
3. Each individual product from series production shall be to the measurements specified in the attached drawings, and shall be manufactured only from the materials specified in the Approval documents.
4. Changes in the product are permitted only with the explicit permission of NSAI. Breaches of this requirement will lead to a withdrawal of the Type Approval, and in addition may be subject to criminal prosecution.
5. This Type Approval will expire when it is surrendered by the holder, or withdrawn by NSAI, or when the approved type of product no longer conforms to legal requirements. The recall of the Type Approval can be issued by NSAI when the conditions required for the issuing or continuation of the Type Approval are no longer current, or when the Approval holder is in breach of the duties attached to the Type Approval, or when it is established that the approved type no longer meets the requirements of traffic safety.
6. NSAI may at any time check the correct performance of the duties imposed by the grant of this Type Approval, and in order to do so, may make tests, or have tests made.
7. Changes in the company name, address or manufacturing site, as well as in any of the sales or other agents specified in the issuing of the approval must immediately be notified to the NSAI.
8. The duties imposed by the issuing of this certificate are not transferable. The legal protection of third parties is not affected by this certificate.
9. When the manufacture or sale of the vehicle, system, component or separate technical unit has not been started within one year of the date of issue of this certificate, then NSAI is to be informed. This requirement also applies when the manufacture or sale has been halted for more than one year, or when it ought to have been halted for more than one year. The initial commencement of manufacture or sale, or the resumption of manufacture or sale, shall then be notified to NSAI within one month of commencement or resumption.

B : Legal Options

Any objection to the requirements set out in this certificate shall be made within one month of the date of issue. The objection shall be made, in writing, to NSAI in Dublin.

Test Report No. : ISOQA-20-0196-R112-HR

Approval No. : 112R-02 0488
Type : B1536E
Manufacturer : Guangzhou Hanma electronics Technology Co., Ltd

TEST REPORT

Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations

Uniform provisions concerning the approval of motor vehicle headlamps emitting an asymmetrical passing beam or driving beam or both and equipped with filament lamps and / or LED Modules

Tested according ECE-R112, 02 series of 15 October 2019

Kind of device: Headlamp for Driving Beam, Class B

Approval status	
X	Application for granting of a type approval
	Application for an extension of type approval No.
	Reason for the extension:

Test Report No. : ISOQA-20-0196-R112-HR

Approval No. : 112R-02 0488
Type : B1536E
Manufacturer : Guangzhou Hanma electronics Technology Co., Ltd

0. General

- 0.1. Make (trade name of manufacturer) : HANMA ,HL, TOTRON
- 0.2. Type : B1536E
- 0.3. Version / Variant : --
- 0.4. Manufacturer's name and address : Guangzhou Hanma electronics Technology Co., Ltd
No. 8 Jianye Middle Road,
Taihe Town, Baiyun District, Guangzhou City, Guangdong
Province,
China 510540
- 0.4.1 Name and address of representative : --
- 0.5. Test laboratory : ISOQA Technical Service Co., Ltd
60, Yong Long Road,
41257 Da-Li, Taichung,
Taiwan

Test Report No. : ISOQA-20-0196-R112-HR

Approval No. : 112R-02 0488
 Type : B1536E
 Manufacturer : Guangzhou Hanma electronics Technology Co., Ltd

1. Test object (s)

1.1. Information :

Material of Lens	Sabic Lexan LS2-111 with UVHC3000 coating	
Material of Housing	Metallic	
Material of Reflector	PC	
Rated Voltage	12/ 24 V	
Driving Beam	Category	HR
	Light Source	2 x LED Module (12 x LEDs in all), 12/ 24 V, 26 W (Detail please see 1.3.3)
	Light Source Control Gear	Type : part of the lamp and include into the lamp body
	Color of light emitted	White
	Color of lens	Clear
	Grouped with	Front position lamp
	Combined with	--
	Incorporated with	--
	Reference Mark for Driving Beam	25

1.2. Location of Marking : see Appendix 2

1.3. Remark(s) :

1.3.1. There are no objections against the variants that may be described in the Information folder respectively the information document by the manufacturer because adversely effects are not expected.

The lamps are part of the same assembly of grouped, combined or reciprocally incorporated lamps. Each of these lamps satisfies the requirements of the relevant regulation.

1.3.2. tests of plastic material please se : LTIK Report No. PMT 060 and PMT 060 N1

1.3.3. 2 LED Modules and 1 control gear in used for the driving beam; 2 x MD E24 0488 (6 LEDs each). LED Module layout please see Appendix 2.

Test Report No. : ISOQA-20-0196-R112-HR

Approval No. : 112R-02 0488
Type : B1536E
Manufacturer : Guangzhou Hanma electronics Technology Co., Ltd

2. Test Specification

2.1. Place of test : Laboratory of ISOQA in Taiwan

2.2. Date of test : 2020/3/30 ~ 2020/4/10

2.3. Date of receipt of test device(s) : 2020/3/30

2.4. Test results :

2.4.1. Markings (according to paragraph 3 and 4 of ECE R112-02)

a.	Trade name or mark	Complies	see Appendix 2
b.	Space reserved for the approval mark	Complies	see Appendix 2
c.	LED module(s)	Not Applicable	
d.	Marking for headlamp designed to meet the requirements of both traffic systems or left-hand traffic system only.	Not Applicable	
e.	A symbol consisting of the number 24 crossed out by an oblique cross (x)	Not Applicable	

2.4.2. General Specifications (according to paragraph 5 of ECE R112-02)

a.	Conformity the specifications	Complies	
b.	Design and construction for satisfactory operation	Complies	
c.	Light source	Complies	
d.	Setting of headlamp designed for both traffic systems	Not Applicable	
e.	Tests for stability of photometric performance of headlamps in operation	Complies	see 3.3.
f.	Test for plastic lens	Complies	see 3.4.
g.	Alternative driving and/or passing beam	Not Applicable	
h.	Illumination configuration for different traffic conditions	Not Applicable	-

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Type : B1536E
Manufacturer : Guangzhou Hanma electronics Technology Co., Ltd

- 2.4.3. Illumination (according to paragraph 6 of ECE R112-02)
- | | | | |
|----|-----------------------|----------------|---------|
| a. | General Provision | Complies | |
| b. | Passing Beam | Not Applicable | |
| c. | Driving beams | Complies | see 3.1 |
| d. | Adjustable reflectors | Not Applicable | |
- 2.4.4. Colour (according to paragraph 7 of ECE R112-02)
- | | | | |
|--|--|----------|---------|
| | | Complies | see 3.2 |
|--|--|----------|---------|
- 2.4.5. LED Module (according to Annex10 of ECE R112-02)
- | | | | |
|----|-------------------------------------|----------|-----------|
| a. | Ageing | Complies | see 2.5.2 |
| b. | colour rendering - Red content | Complies | see 3.5.1 |
| c. | uv-radiation | Complies | see 3.5.2 |
| d. | temperature stability - Illuminance | Complies | see 3.1 |
| e. | temperature stability - Colour | Complies | see 3.2 |
| f. | objective luminous flux | Complies | see 3.5.3 |
- 2.5. Remark (s)
- 2.5.1 LED module specific identification code : MD E24 0488
- 2.5.2 LED module was operated for 15 h and cooled down to ambient temperature before starting the tests

Test Report No. : ISOQA-20-0196-R112-HR

Approval No. : 112R-02 0488
 Type : B1536E
 Manufacturer : Guangzhou Hanma electronics Technology Co., Ltd

3.3. Stability of Photometric Performance of Headlamps in Operation

Function : Driving Beam Class : Class B
 Test Voltage : 13.2 V / 28 V Light Source : 2 x LED Module (12 x LEDs in all)

- Test for Stability of Photometric Performance

Test Point	clean headlamp before burn in		clean headlamp after burn in		dirty headlamp after burn in	
	Value (cd)	dif. (%)	Value (cd)	dif. (%)	Value (cd)	dif. (%)
I _{max} (12 V system)	109719.800	-	109521.100	0.18%	100319.500	8.40%
I _{max} (24 V system)	107718.600	-	107418.400	0.28%	100919.800	6.05%
Result	-		PASS		PASS	

For clean headlamp test the headlamps continuously operated for 12 hours; for dirty headlamp test the headlamp continuously operated for 1 hour. After the test, there is no distortion, deformation, cracking or change in colour of either the headlamp lens or the external lens.

A 10 per cent discrepancy is permissible.

3.4. Tests on Complete Headlamps

3.4.1. Mechanical deterioration

Function : Driving Beam Class : Class B
 Test Voltage : 13.2 V / 28 V Light Source : 2 x LED Module (12 x LEDs in all)

Test Point	Minimum (cd)	Maximum (cd)	Value (cd)
H-V (12 V system)	29160	-	52810.00
H-V (24 V system)	29160	-	54440.00
Result	PASS		

3.4.2. Adherence of coatings

Requirement	Result
There shall be no appreciable impairment of the grated area. Impairments at the intersections between squares or at the edges of the cuts shall be permitted, provided that the impaired area does not exceed 15 per cent of the grated surface.	PASS

Test Report No. : ISOQA-20-0196-R112-HR

Approval No. : 112R-02 0488
Type : B1536E
Manufacturer : Guangzhou Hanma electronics Technology Co., Ltd

3.5. Additional Test for led modules and headlamps including led modules

3.5.1. Colour Rendering

- 12 V system : $k_{red} = 0.0809$ (≥ 0.05)
- 24 V system : $k_{red} = 0.0807$ (≥ 0.05)

3.5.2. UV-Radiation

- 12 V system : $k_{uv} = 4.11E-10$ ($\leq 10^{-5}$ W/ lm)
- 24 V system : $k_{uv} = 3.71E-10$ ($\leq 10^{-5}$ W/ lm)

3.5.3. Objective Luminous Flux

(LED module specific identification code : MD E24 0488)

- 12 V system : 2361 (lm)
- 24 V system : 2416 (lm)

LED Module(s) was aged for 72 hours before upon tests

Test Report No. : ISOQA-20-0196-R112-HR

Approval No. : 112R-02 0488
Type : B1536E
Manufacturer : Guangzhou Hanma electronics Technology Co., Ltd

4. Communication

Concerning : APPROVAL GRANTED

of a type of device pursuant to Regulation No. 112.02

Approval No. 112R-02 0488 Extension No. 00

4.1. Brief description

Category as described by the relevant marking	:	HR PL
Number and category(s) of filament lamp(s):	:	NO
Reference luminous flux used for the principal passing-beam (lm):	:	N/A
Principal passing-beam operated at approximately (V)	:	N/A
Measures according to paragraph 5.8. of this Regulation	:	N/A
Number and specific identification code(s) of LED module(s) and for each LED module a statement whether it is replaceable or not	:	2 non-replaceable LED Module (MD E24 0488 x 2; 6 LEDs each) which contains of 12 LEDs in all
Number and specific identification code(s) of electronic light source control gear(s)	:	1 control gear; part of lamp and included into the lamp body
Total objective luminous flux as described in paragraph 5.9. exceeds 2,000 lumen	:	N/A
The adjustment of the cut-off has been determined at	:	N/A
The determination of the minimum sharpness of the "cut-off" has been carried out at	:	N/A

4.2. Approval mark position : on the Lens

4.3. Reason(s) for extension (if applicable) : N/A

Test Report No. : ISOQA-20-0196-R112-HR

Approval No. : 112R-02 0488
Type : B1536E
Manufacturer : Guangzhou Hanma electronics Technology Co., Ltd

5. Appendices

- | | |
|------------------------------------|--------------------|
| 1. Appendix 1 Information document | 1 page(s) in total |
| 2. Appendix 2 Drawing | 1 page(s) in total |

6. Statement of conformity

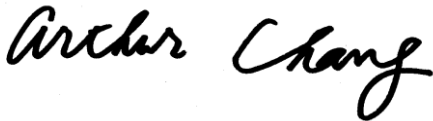
The information folder respectively information document by the manufacturer and the type described therein are in compliance with the Test Specification mentioned above.

ISOQA Technical Service Co., Ltd

Place : Taichung, Taiwan

Date : 2020/6/18

Signature



Laboratory Manager - Chih-Hua Chang

Guangzhou Hanma electronics Technology Co., Ltd

No. 8 Jianye Middle Road,
Taihe Town, Baiyun District, Guangzhou City, Guangdong
Province, 510540 China

TEL: 86-20-37623527

FAX: 86-20-37618162

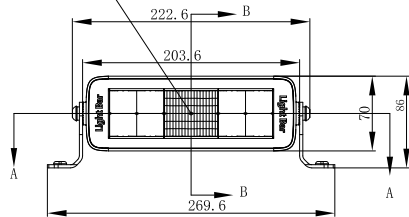
INFORMATION

for Initial Application

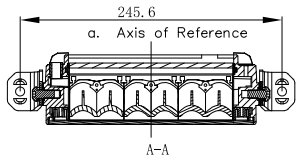
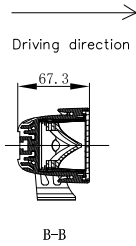
Date: 2020/3/27

Manufacturer's Name and Address	Guangzhou Hanma electronics Technology Co., Ltd No. 8 Jianye Middle Road, Taihe Town, Baiyun District, Guangzhou City, Guangdong Province, 510540 China	
Trade name or mark	HANMA ,HL, TOTRON	
Type Name	B1536E	
Material of Lens(es)	Sabic Lexan LS2-111 with UVHC3000 coating	
Rate Voltage	12/ 24 V	
Rate Wattage	see below	
Driving Beam (R112.02)	Category	HR
	Light Source	2 x LED Module (12 x LEDs in all), 12/ 24 V, 26 W
	Light Source Control Gear	part of the lamp and include into the lamp body
	Color of light emitted	White
	Color of lens	Clear

CENTER OF REFERENCE
DRIVING BEAM
2 X LED MODULE
(LED*12 IN ALL; 12/24V 26W)



b. Axis of Reference




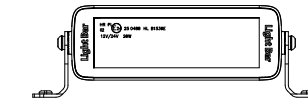
- a. longitudinal Plane of Vehicle
- b. horizontal Plane of Vehicle

unit : mm

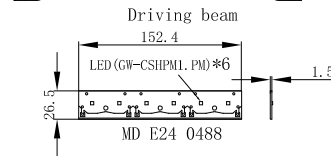
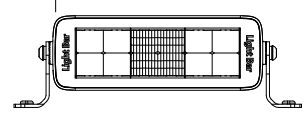
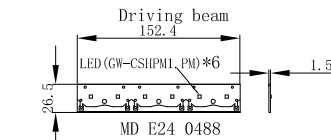
Guangzhou Hanma electronics Technology Co., Ltd
Type Name : B1536E
Function : Head Lamp

MARKING Trade Mark:
Hanma HL TOTRON

HR PL
02  25 0488 HL B1536E
12V/24V 26W



LED MODULE LAYOUT



Driving beam
control gear

