ECE TYPE-APPROVAL CERTIFICATE

E24

Communication Concerning: Approval granted
~~Approval extended~~
~~Approval refused~~
~~Approval withdrawn~~
~~Production definitively discontinued~~

Of a type of electrical/electronic sub-assembly with regard to Regulation No.10.

Approval No: ***E24*10R06/01*3564*00***

Reason for extension:		***-N/A***
1.	Make (trade name of manufacturer):	***Sarnikon, Sarlite***
2.	Type and general commercial description:	***TK.OTO.SPOT.110.016*** *Driving and Working Light*
	Variant(s):	***See point 2 of information document for full details***
3.	Means of identification of type, if marked on the ~~vehicle~~/ component/~~separate technical unit~~:	***Letters and numbers on label***
3.1	Location of that marking:	***Label on the side cover of product***
4.	Category of vehicle:	***N/A***
5.	Name and address of manufacturer:	***Sarnikon Metal ve Elektronik San. Tic. Ltd. Şti.*** ***Dr.Sadık Ahmet Caddesi No:12/A*** ***TR-34315 Avcılar, İstanbul,*** ***TURKEY***
6.	In the case of components and separate technical units, location and method of affixing of the approval mark:	***Side cover of the product, labelled approval mark***
7.	Address(es) of assembly plant(s):	***Sarnikon Metal ve Elektronik San. Tic. Ltd. Şti.*** ***Ferhatpaşa Mahallesi 14. Sokak No: 12*** ***TR-34888 Ataşehir, İstanbul,*** ***TURKEY*** ***Sarnikon Metal ve Elektronik San. Tic. Ltd. Şti.*** ***Eyüp Sultan Mahallesi Hoca Nasrettin Caddesi No: 10/1 Sancaktepe, İstanbul,*** ***TURKEY***

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Approval No: ***E24*10R06/01*3564*00***

8.	Additional information (where applicable):	***See appendix below***
9.	Technical service responsible for carrying out the tests:	***TÜV AUSTRIA AUTOMOTIVE GMBH*** ***Deutschstraße 10*** ***A-1230 Wien***
10.	Date of test report:	***26.05.2021***
11.	Number of test report:	***21-TAMO-0157***
12.	Remarks (if any):	***See Appendix below***
13.	Place:	***Dublin***
14.	Date:	***23rd June, 2021***
15.	Signature:	

16. The index to the information package lodged with the approval authority, which may be obtained on Request, is attached.

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Approval No: ***E24*10R06/01*3564*00***

Appendix

To type-approval communication concerning the type approval
of an electrical/electronic sub-assembly under Regulation No.10.

1.	Additional information	
1.1.	Electrical system rated voltage:	***DC 12V / 24V, negative ground***
1.2.	This ESA can be used on any vehicle type with the following restrictions:	***See manufacturer's specifications.***
1.2.1	Installation conditions, if any:	***See manufacturer's specifications.***
1.3.	This ESA can only be used on the following vehicle types:	***N/A***
1.3.1	Installation conditions, if any:	***N/A***
1.4.	The specific test method(s) used and the frequency ranges covered to determine immunity were:	***Bulk Current Injection Method:*** *Frequency: (20 – 200 MHz)* ***Absorber Chamber Test:*** *Frequency: (200 – 2000 MHz)*
1.5.	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests:	***TÜV AUSTRIA AUTOMOTIVE GMBH***
2.	Remarks:	***N/A***

Appendix to type-approval communication concerning the
type approval of a vehicle under Regulation No.10.

1.	Additional information	
2.	Special devices for the purpose of Annex 4 to this Regulation:	***N/A***
3.	Electrical system rated voltage:	***N/A***
4.	Type of bodywork:	***N/A***
5.	List of electronic systems installed in the tested vehicle(s) not limited to the items in the information document:	***N/A***
5.1	Vehicle equipped with 24 GHz short-range radar equipment (yes/no):	***N/A***
6.	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests:	***N/A***
7.	Remarks:	***N/A***

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Approval No: ***E24*10R06/01*3564*00***

Index to the Information Package

Date of issue:	***23rd June, 2021***
Date of latest amendment:	***N/A***
Reason for extension/revision:	***N/A***

1. Additional conditions, and advisory notes on legal alternatives.

2. Test report(s)

- numbers(s):	***21-TAMO-0157***
- date of issue:	***26.05.2021***
- date of latest amendment:	***N/A***

3. Information document

- number(s):	***TK.OTO.SPOT.110.016***
- date of issue:	***11.05.2021***
- date of latest amendment:	***N/A***
Documentation:	***67 pages***

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Approval No: ***E24*10R06/01*3564*00***

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

A: Additional conditions:

1. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
2. Each device 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.
3. Changes in the type 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.
4. At regular intervals, any tests or associated checks prescribed by the applicable legislation to verify continued conformity with the approved type shall be carried out. The manufacturer shall demonstrate compliance with this by submitting to NSAI evidence of adequate arrangements and documented control plans for each type approved.
5. Any set of samples or test pieces showing evidence of non-conformity shall give rise to further sampling and testing and all steps shall be taken to restore conformity of production.
6. This Type Approval will expire when it is surrendered by the holder, or withdrawn by NSAI, or when the approved type 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.
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 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 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.

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TECHNICAL REPORT

21-TAMO-0157

Radio Interference (Electromagnetic Compatibility of ESA)

Regulation (ECE/EU) / Regulation No. **ECE-R10**

Taking into consideration amendment No. **06** supplement **01**

Approval Status		
☒	Granting of a type approval	
☐	Extension to type approval number:	
☐	Correction to type approval number:	

1. General

1.1.	Make (trade name of manufacturer) :	Sarnikon, Sarlite
1.2.	Type of device or component:	TK.OTO.SPOT.110.016
1.2.1	Variant(s) :	16 LEDs -12V 16 LEDs -24V
1.2.1.1	Version(s):	16 LEDs -12V/24V-?L ? : it means that color (W-White, B-Blue, P-Purple, G-Green) L: it means that led ?L : WL (White Led), BL(Blue Led), PL (Purple Led), GL (Green Led)
1.3.	Commercial description:	Driving and Working Light
1.4.	Component Specifications : (Product Name/Electrical system rated voltage/nominal current):	The product is a driving and working light with 16 leds (12/24V) using for outside lighting.
1.5.	Manufacturer's name and address:	SARNİKON METAL ve ELEKTRONİK SANAYİ TİCARET LİMİTED ŞİRKETİ Dr.Sadık Ahmet Caddesi No:12/A TR-34315 ,Avcılar / İstanbul / TURKEY

1.6.	Name and address(es) of assembly plant(s):	**Plant 1:** SARNİKON METAL ve ELEKTRONİK SANAYİ TİCARET LİMİTED ŞİRKETİ Ferhatpaşa Mahallesi 14. Sokak No: 12 TR-34888 , Ataşehir / İstanbul / TURKEY **Plant 2:** SARNİKON METAL ve ELEKTRONİK SANAYİ TİCARET LİMİTED ŞİRKETİ Eyüp Sultan Mahallesi Hoca Nasrettin Caddesi No: 10/1 Sancaktepe / İstanbul / TURKEY
1.7.	Reasons for Extension:	Not Applicable
1.8.	Information folder no:	TK.OTO.SPOT.110.016
	Date of issue of information folder :	11.05.2021
1.9.	Test Location and Test Date :	İstanbul /Turkey and 01.04.2021 to 20.04.2021
1.10.	Additional information (where applicable):	This is EMC test report for a '' Driving and Working Light '' used in the vehicle. There is only one variant and there are many different versions includes different color leds. All leds are the same type, theirs nominal current and working voltage are the same. So the product with white led version is produced so it was tested. The ESA was tested in combination with normal operations to simulate a real case of installation and use in a vehicle.

1.11. Remarks (if any):

Following Operating Condition was checked as Worst case of the real use:
-Operation Mode 1& Mode 2: All leds are on.

Operation Mode 1:Normal operation mode (All leds are on) at 24 VDC

Operation Mode 2:Normal operation mode (All leds are on) at 12 VDC

System powered at +12V/+24V DC during the Radiated emission tests.
System powered at +12/+24V DC during the Radiated Immunity tests,
considering the worst case test level to cover all cases object of this transient phenomena.

2. Test report

2.1. Test conditions

2.1.1. Testing Equipment Used

Equipment	Equipment Serial Code	Next Calibration Date
EMC Test Equipments	See Test Laboratory EMC Report (See Annex A)	See Test Laboratory EMC Report (See Annex A)

2.2. Tests Required

	Yes, NA, See Report … / Approval … / Annex …
Radiated Emissions:	Yes
Radiated Immunity	Yes
BCI Immunity:	Yes
Free Field Immunity:	Yes
150 mm Stripline Immunity:	NA
800 mm Stripline Immunity:	NA
Transient Immunity	Yes
Transient Testing:	NA

3. Test results

3.1 Selection of versions/variants for testing :

Following version(s) has (have) been used for testing:

Type: TK.OTO.SPOT.110.016

Commercial Name: Driving and Working Light

Variants: 16 LEDs - 12V
16 LEDs - 24V

Versions: 16 LEDs -12V/24V-?L

? : it means that color (W-White, B-Blue, P-Purple, G-Green)
L: it means that led

?L : WL (White Led), BL(Blue Led), PL (Purple Led), GL (Green Led)

The tested item(s) is (are) representative of the worst-case configuration.

During the tests the following operating modes with white leds have been used:
16 LEDs -12V/24V-WL

Operation Mode 1: Normal operation mode (All leds are on) at $24V_{DC}$
Operation Mode 2: Normal operation mode (All leds are on) at $12V_{DC}$

3.2. Other than “REESS charging mode coupled to the power grid”

3.2.1. Broadband electromagnetic radiation:

Results of the measurement in according with Annex 7 of ECE-R10:

Test facility	~~:outdoor~~ **/ indoor**
Reference antenna distance	**:1m** /~~ 3 m / 10 m~~
Signal strength measured over the Frequency range 30 to 1000 MHz	**:requirements fulfilled**
State of the ESA	**: - Measurement performed with Operation mode 1 & Operation mode2 -Supply test voltage 27 V DC (Related voltage: 24 V DC) -Supply test voltage 13,5 V DC (Related voltage: 12 V DC)**

The ESA is in compliance with the requirements.
For more details please refer to annex A.

3.2.2. **Narrowband electromagnetic radiation:**

Results of the measurement in according with Annex 8 of ECE-R10:

Test facility	~~:outdoor~~ **/ indoor**
Reference antenna distance	**:1m** /~~ 3 m / 10 m~~
Signal strength measured over the Frequency range 30 to 1000 MHz	**:requirements fulfilled**
State of the ESA	**: - Measurement performed with Operation mode 1& Operation mode 2 -Supply test voltage 27 V DC (Related voltage: 24 V DC) -Supply test voltage 13,5 V DC (Related voltage: 12 V DC)**

The ESA is in compliance with the requirements.
For more details please refer to annex A.

3.2.3. **Immunity of ESA to electromagnetic radiation:**

Results of the measurement in according with Annex 9 of ECE-R10:

Test facility	~~:outdoor~~ **/ indoor**
State of the ESA	**:Test has been performed at operation mode 1& operation mode 2** **-Supply test voltage 27 V DC (Related voltage for ESA: 24V DC) -Supply test voltage 13,5 V DC (Related voltage for ESA: 12 V DC)**

No deviations were observed while ESA was exposed to electromagnetic radiation according to the specifications of the above-mentioned Annex of the Regulation.

For more details please refer to annex A.

3.2.4. Immunity to transient disturbances conducted along supply lines:

Test in accordance with sub-clause 2 of annex 10 of the regulation were performed and the specifications of the regulation are fulfilled.

3.2.5. Emission of conducted disturbances:

No test according to sub-clause 3 of Annex 10 of the Regulation was performed.

Regarding the Conducted transient emission consedering the EXEMPTION Ref par. 6.10.5 of the ECE-R10/06
"ESAs that are not switched, contain no switches or do not include inductive loads need not be tested for transient conducted emission and shall be deemed to comply with paragraph 6.7. "

3.3. "REESS charging mode coupled to the power grid"

Not applicable

4. Annexes

Annex	A	Test Laboratory EMC Report	**48**	Pages
Annex	B	Information document (acc. to 1.8)	**11**	Pages

5. Final Statement

The information document as mentioned under No. 1.8 and the type described therein are in compliance with the test specification mentioned above. The worst case was selected in accordance with document (QAA-TAA-002_Selection process for worst case).

Test results are only applicable to items, which have been tested.

This report includes pages 1 to 8. The test report may be reproduced and published fully and by the client only.

Wien */ Vienna*, 26.05.2021

TÜV AUSTRIA AUTOMOTIVE GMBH

☐ Benannter Technischer Dienst des Kraftfahrt-Bundesamtes (KBA), Registrier-Nummer KBA-P 00055-00
Designated Technical Service of Kraftfahrt-Bundesamt (KBA), Germany, Registration number KBA-P 00055-00

☑ Benannter Technischer Dienst der National Standards Authority of Ireland (NSAI), Technical Service Number 103
Designated Technical Service by the National Standards Authority of Ireland (NSAI), Technical Service Number 103

Walter Posch
Recognized Signature

TÜV AUSTRIA AUTOMOTIVE GMBH

Zehra DOĞAN
Recognized Expert/Signature