



GRAND-DUCHÉ DE LUXEMBOURG

Ministère du Développement durable
et des Infrastructures
Département des Transports

L-2938 Luxembourg

SOCIÉTÉ NATIONALE DE
CERTIFICATION ET D'HOMOLOGATION

s.à r.l.

Registre de Commerce: B 27180

L-5201 Sandweiler



Référence: E13*10R00*10R04*13742*00

Annexes: - Rapport Technique
- Fiche de Renseignements du constructeur

Sandweiler, le 16 septembre 2015

Communication concernant:⁽²⁾

Communication concerning:



- la délivrance d'une homologation

approval granted

- l'extension d'homologation

approval extended

- le refus d'homologation

approval refused

- le retrait d'homologation

approval withdrawn

- l'arrêt définitif de la production

production definitively discontinued

d'un type de sous-ensemble électrique/électronique⁽²⁾ en ce qui concerne le Règlement N° 10.
of a type of ~~electrical~~/electronic sub-assembly with regard to Regulation N° 10.


Numéro d'homologation par type:

Approval number:

E13*10R00*10R04*13742*00

Marque d'homologation:

Approval mark:

 10R - 04 13742

- Fabricant (marque commerciale du constructeur):**
Make (trade name of manufacturer): RG
- Type:**
Type: F0401V1

Dénomination(s) commerciale(s) générale(s):
General commercial description(s): Work lamp
Version(s)/Variante(s):
Version(s)/Variant(s): None

- 3. Moyens d'identification du type, s'ils sont marqués sur le composant / entité technique⁽²⁾:**
Means of identification of type, if marked on the component / ~~separate technical unit~~:
- See item 6.
- 3.1. Emplacement de ce marquage:**
Location of that marking:
- See item 6.
- 4. Catégorie du véhicule:**
Category of vehicle:
- Not applicable
- 5. Nom et adresse du constructeur:**
Name and address of manufacturer:
- Foshan Ruiguang Auto Lighting & Electrical Co., Ltd.
2F, Block B, Tangtou Science Industrial Park,
Shishan Town, Nanhai District, Foshan City,
Guangdong Province, P.R. China
- 6. Dans le cas de composants ou d'entités techniques, emplacement et procédé de fixation de la marque de réception CEE:**
In the case of components and separate technical units, location and method of affixing of the ECE approval mark:
- Marked on the lens
- 7. Adresse(s) de l' (des) usine(s) d'assemblage:**
Address(es) of assembly plant(s):
- Foshan Ruiguang Auto Lighting & Electrical Co., Ltd.
2F, Block B, Tangtou Science Industrial Park,
Shishan Town, Nanhai District, Foshan City,
Guangdong Province, P.R. China
- 8. Informations supplémentaires (s'il y a lieu):**
Additional informations (where applicable):
- See appendix
- 9. Autorité déléguée:**
Assigned authority:
- Société Nationale de Certification et d'Homologation
L-5201 Sandweiler*
- Service technique responsable de l'exécution des essais:**
Technical service responsible for carrying out the tests:
- ATE EL S.à r.l.
Op Huefdreich 14
L-6871 Wecker
- 10. Date du rapport d'essai:**
Date of test report:
- 01.09.2015
- 11. Numéro du rapport d'essai:**
Number of test report:
- 65RGA0009A
- 12. Remarques (s'il y a lieu):**
Remarks (if any):
- See appendix

13. **Lieu:** Sandweiler
Place:

14. **Date:** 16 septembre 2015
Date:

15. **Signature:**
Signature:

Pour le Département des Transports



Marco FELTES
Inspecteur Principal 1^{er} en rang

Pour la SNCH



Claude LIESCH
Directeur



16. **L'index de l'ensemble des renseignements déposé chez l'autorité de réception, qui peut être obtenu sur demande, est joint.**

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

See index to type-approval report

17. **Raison(s) de l'extension:** Not applicable
Reason(s) for extension:

Appendice

Appendix

au certificat d'homologation par type N° E13*10R00*10R04*13742*00
to type-approval certificate N° E13*10R00*10R04*13742*00
concernant l'homologation par type d'un sous ensemble électrique/électronique selon le Règlement N° 10.
concerning the type-approval of an electrical/electronic sub-assembly under Regulation N° 10.

- | | | |
|---------------|--|--|
| 1. | Informations supplémentaires.
Additional information. | |
| 1.1. | Tension nominale du système électrique [V]:
Electrical system rated voltage [V]: | 12V / 24V DC |
| | Masse:
Ground: | Positive /Negative ⁽²⁾ |
| 1.2. | Ce SEEE peut être utilisé sur n'importe quel type de véhicule avec les restrictions suivantes:
This ESA can be used on any vehicle type with the following restrictions: | None |
| 1.2.1. | Conditions d'installation, s'il y a lieu:
Installation conditions, if any: | None |
| 1.3. | Ce SEEE peut seulement être utilisé sur les types de véhicules suivants:
This ESA can be used only on the following vehicle types: | Not applicable |
| 1.3.1. | Conditions d'installation, s'il y a lieu:
Installation conditions, if any: | Not applicable |
| 1.4. | La (les) méthode(s) spécifique(s) d'essais utilisée(s) et les bandes de fréquences couvertes pour déterminer l'immunité étai(ent): (indiquez s'il vous plaît à partir de l'annexe 9 la méthode précise utilisée).
The specific test method(s) used and the frequency ranges covered to determine immunity were: (Please specify precise method used from annex 9). | Bulk current injection 20 to 200MHz
ISO 11452-4: 3 rd ed. 2005 + Corr. 1: 2009
Absorber chamber 200 to 2000MHz
ISO 11452-2: 2 nd ed. 2004 |
| 1.5. | Laboratoire accrédité au titre de la norme ISO 17025 et reconnu par l'autorité d'homologation chargée d'effectuer les essais:
Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: | Not applicable |
| 2. | Commentaires:
Remarks: | None |

² **Biffer la mention inutile**
Strike out what does not apply



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L-5201 Sandweiler

Référence: E13*10R00*10R04*13742*00

Annexes: - Rapport Technique
- Fiche de Renseignements du constructeur

Sandweiler, le 16 septembre 2015

Index du dossier d'homologation

Index to type-approval report

	Numéro d'homologation: Approval number:	E13*10R00*10R04*13742*00
	Révision: Revision:	00
	Marque de fabrication ou de commerce: Trade name or mark:	RG
	Type: Type:	F0401V1
1.	Procès-verbal d'essai: Test report:	N° 65RGA0009A
	- Technical report:	Page 1 & 2
	- Index:	Annex II – Page 1
	- Test report:	Annex T – Page 1 to 8
	- General information:	Annex GI1 – Page 1 & 2
2.	Dossier du constructeur: Report of the manufacturer:	Annex MID
	- Content:	Refer to 1 st page
3.	Autres documents annexés: Other documents annexed:	Not applicable
4.	Date de délivrance de l'homologation initiale: Date of issue of initial type approval:	16.09.2015
5.	Date de la dernière délivrance de pages révisées: Date of last issue of revised pages:	Not applicable
6.	Date de la dernière délivrance d'une homologation révisée: Date of last extension:	Not applicable



Tests and inspection concerning

ELECTROMAGNETIC COMPATIBILITY

according to the ECE Regulation No. 10 including all amendments
up to Series 04, Supplement 2 of 15.07.2013

Manufacturer: Foshan Ruiguang Auto Lighting & Electrical Co., Ltd.
2F, Block B, Tangtou Science
Industrial Park, Shishan Town,
Nanhai District, Foshan City,
Guangdong Province, P.R. China

Type: F0401V1

Type of Approval: ECE	Type Approval No.: E13*10R00*10R04*....*00	Manufacturer: Foshan Ruiguang Auto Lighting & Electrical Co., Ltd.
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Conclusion: The tests and checks carried out have shown the compliance of the type described in this report and the attached annexes with the Regulation mentioned above.

Wecker, 01.09.2015


p.o. Mengting Xu
Ingénieur Inspecteur

Index: see Annex I1



1 Tests and inspection results

Refer to Annex T

2 Type and variants

The tests and inspections carried out and described in this technical report have been selected in order to include the following variants and versions of the type and its equipments, as far as these are relevant for the topic of this report, into the judgement:

As stated in Annex MID (Manufacturer's Information Document):	Item
Electrical system rated voltage	9.

3 Remark

3.1 General

None.



Compilation of Dossier No.: 65RGA0009

Extension 00

Technical Report no.: 65RGA0009A

page 1 and 2

Composition of Annex:

I1:	Index	page 1
T:	General Test Report	page 1 to 8
GI1:	General Information	page 1 to 2
MID:	Manufacturer's Information Document	page 1 to 5

Index of the appendices to the Manufacturer's Information Document: see Annex MID,page 1



General Test Report

The data in this section refer only to the items submitted to testing or inspection.

0 Abstract

0.1 Denomination F0401V1

1 Dates and resources

1.1 Date of receipt of test item 21.08.2015

1.2 Date of test 21.08.2015

1.3 Place of test Motorcycle Test Technology Institute of China South Industries Group Corporation
Xi'an, Shanxi, China

1.4 Testing site and testing equipment:

All measuring and test equipment used to carry out the inspections are in accordance with ISO 17025 and the regulatory act(s) applied.

1.5 Resources

1.5.1 Broadband and narrowband emissions:

1.5.1.1 Broadband emissions:

The requirements of item 3 of Annex 7 of the Regulation have been fulfilled.
The test have been conducted in measurements performed in a semi anechoic chamber.

1.5.1.2 Narrowband emissions:

The requirements of item 3 of Annex 8 of the Regulation have been fulfilled.
The test have been conducted in measurements performed in a semi anechoic chamber.

1.5.2 The immunity of ESAs to electromagnetic radiation

The requirements of item 3 and item 4 of Annex 9 of the Regulation have been fulfilled.
The specific test requirements shall include the absorber chamber test and bulk current injection testing.

1.5.3 The immunity to transient disturbances conducted along supply lines

The requirements of item 2 of Annex 10 of the Regulation have been fulfilled.
This test method shall ensure the immunity of ESAs to conducted transients on the vehicle power supply.



General Test Report

1.5.4 The emission of conducted disturbances

The requirements of item 3 of Annex 10 of the Regulation have been fulfilled.
This test method shall ensure limit conducted transients from ESAs to the vehicle power supply.

2 Test object

The tests were conducted with a test ESA which is representative of the ESA type to be approved.

2.1 Description

The ESA is a work lamp.
The ESA can be used with 12V or 24V voltage.
ID: F0401V1

2.2 Equipment

Optional equipment installed on the ESA: none

3 Tests and inspections

3.1 Measurement of radiated broadband electromagnetic emissions from ESA

The test is performed on 24V voltage system.

Antenna position:	According to item 6.5.2.1 of the Regulation
Bandwidth:	120 kHz
Frequency range:	30 to 1000 MHz
Detector:	Peak (CISPR 12)
ESA condition:	According to item 2 of Annex 7 of the Regulation

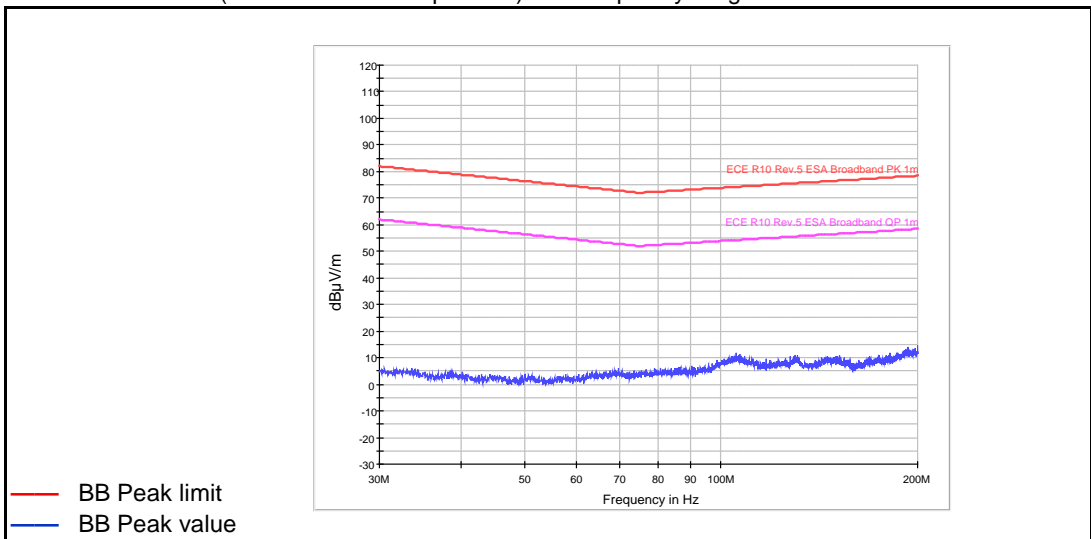


General Test Report

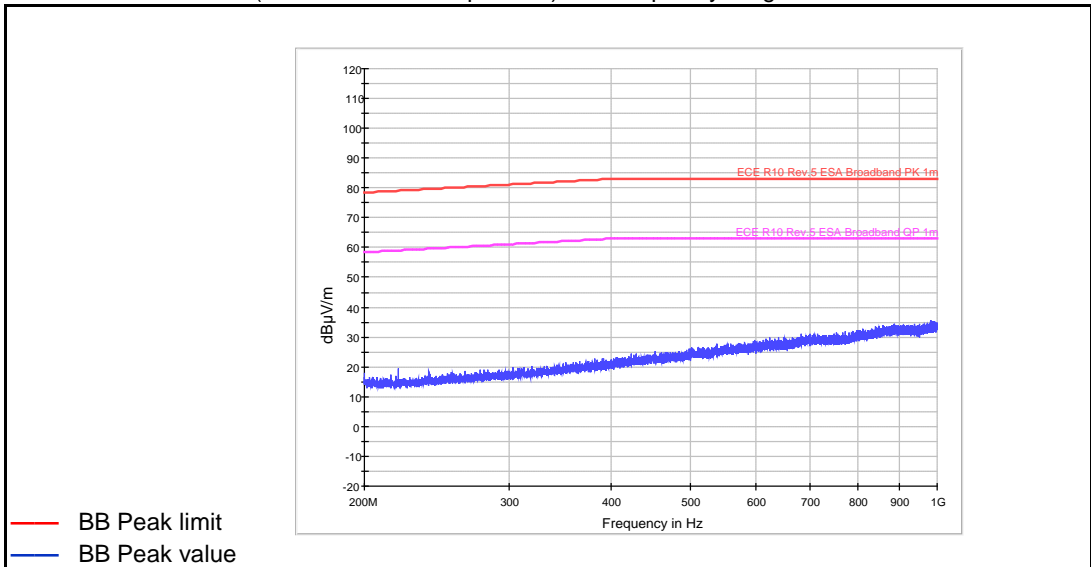
3.1.1 Test results:

3.1.1.1 Horizontal antenna

First measurement (horizontal antenna position) with frequency range 30-200 MHz



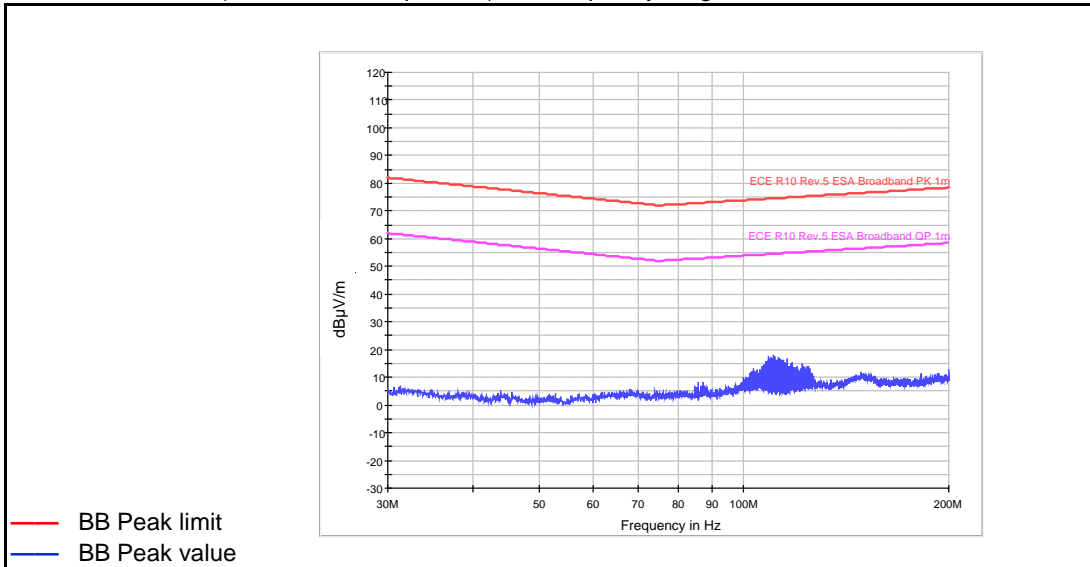
Second measurement (horizontal antenna position) with frequency range 200-1000 MHz



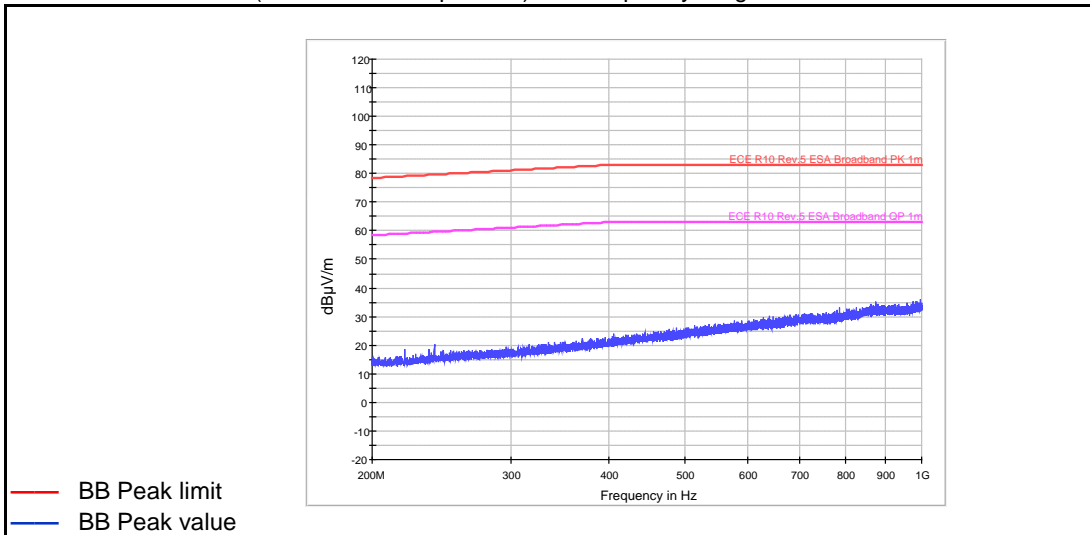
General Test Report

3.1.1.2 Vertical antenna

First measurement (vertical antenna position) with frequency range 30-200 MHz



Second measurement (vertical antenna position) with frequency range 200-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.



General Test Report

3.2 Measurement of radiated narrowband electromagnetic emissions from ESA

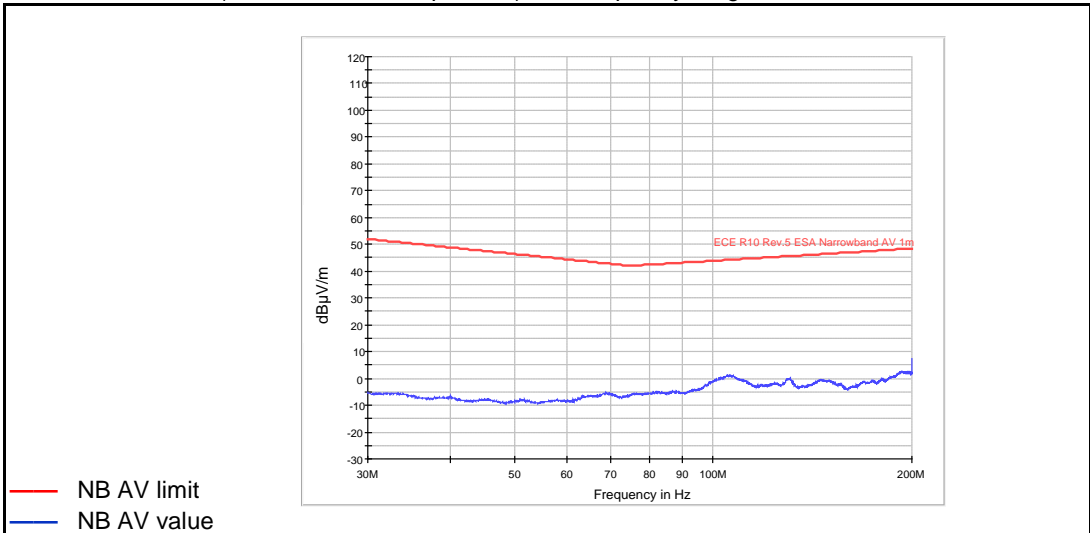
The test is performed on 24V voltage system.

Antenna position: According to item 6.6.2.1 of the Regulation
Bandwidth: 120 kHz
Frequency range: 30 to 1000 MHz
Detector: Average detector
ESA condition: According to item 2 of Annex 8 of the Regulation

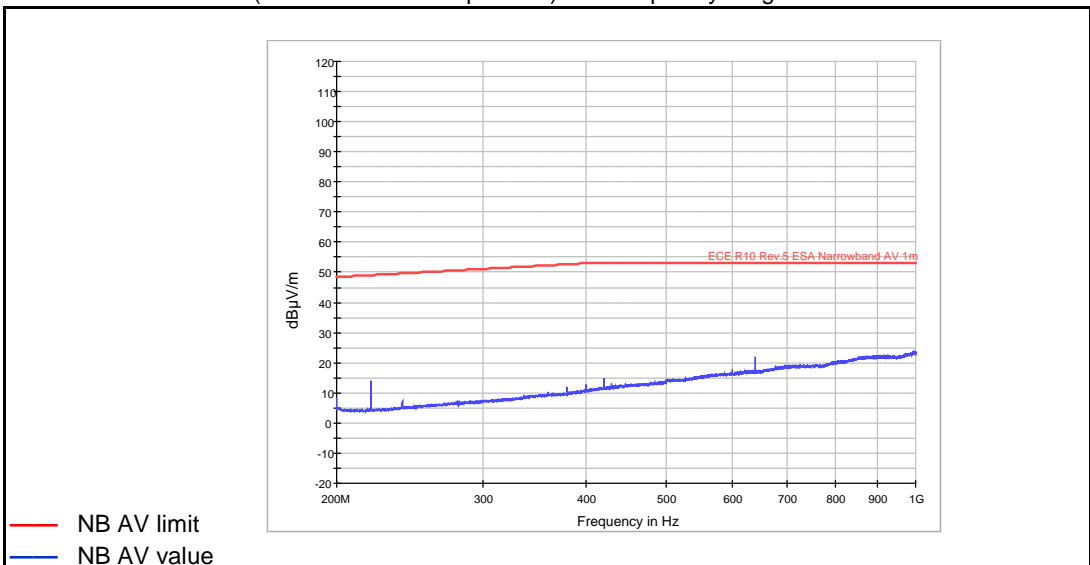
3.2.1 Test results

3.2.1.1 Horizontal antenna

First measurement (horizontal antenna position) with frequency range 30-200 MHz



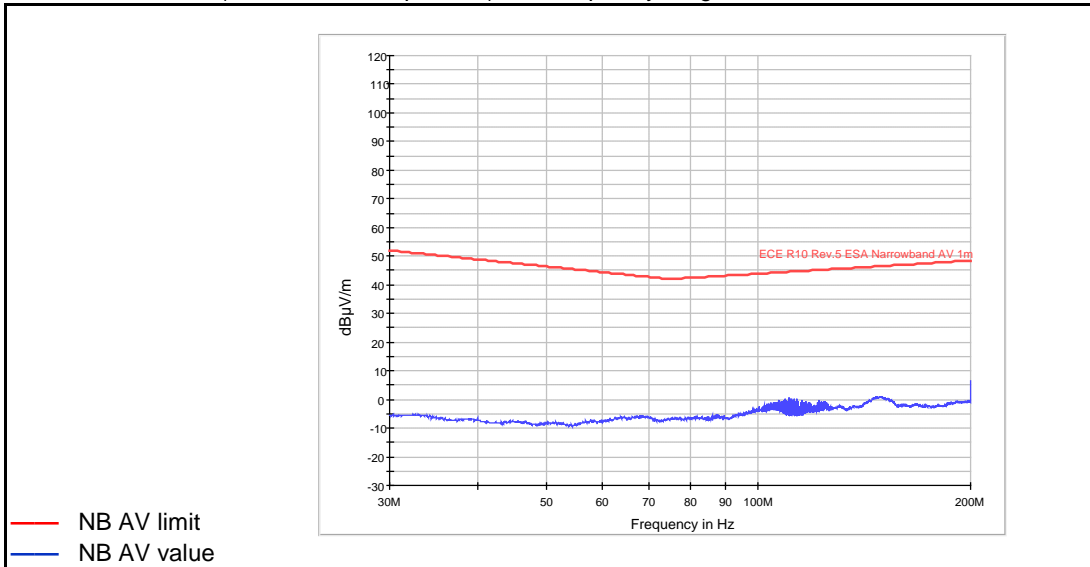
Second measurement (horizontal antenna position) with frequency range 200-1000 MHz



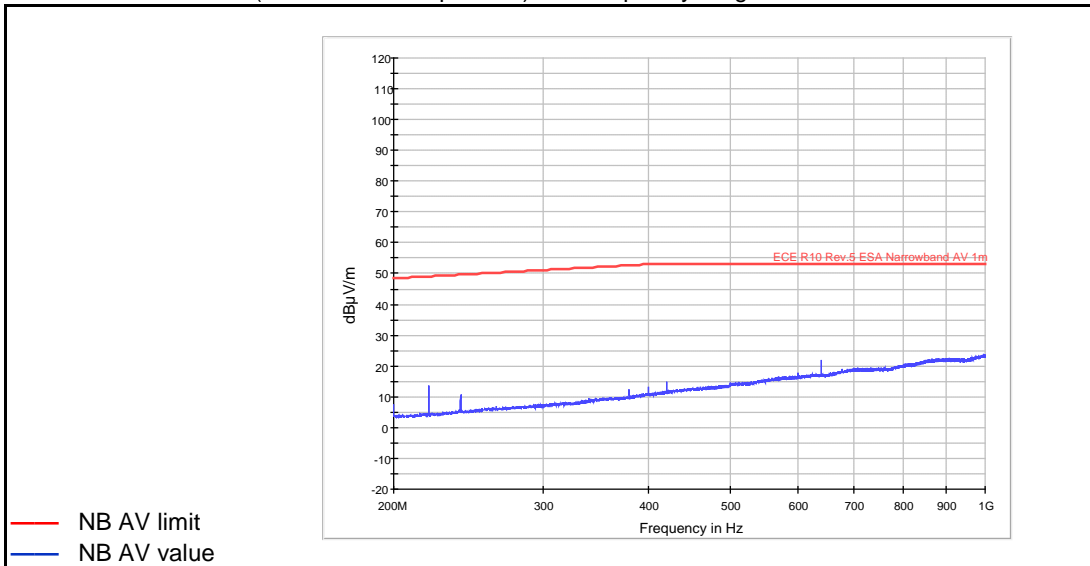
General Test Report

3.2.1.2 Vertical antenna

First measurement (vertical antenna position) with frequency range 30-200 MHz



Second measurement (vertical antenna position) with frequency range 200-1000 MHz



The requirements of item 6.6.2.2 of the Regulation are fulfilled.



General Test Report

3.3 The immunity of ESAs to electromagnetic radiation

The test is performed on 24V voltage system.

3.3.1 Absorber chamber test

Method of testing: ISO 11452-2, second edition 2004
Frequency range: 200 to 2000 MHz
Test level: 30V/m
Type of modulation: 200-800 MHz: 80% AM, 1kHz
800-2000 MHz:PM, ton=577µs, period 4,600 µs
ESA condition: According to item 2 of Annex 9 of the Regulation

3.3.1.1 Test results

There is no degradation of performance of "immunity related functions".
The requirements of item 6.7.2.2 of the Regulation are fulfilled.

3.3.2 Bulk current injection test

Method of testing: ISO 11452-4, third edition 2005 and Corrigendum 1:2009
Frequency range: 20 to 200 MHz
Test level: 60mA
Type of modulation: 80% AM, 1kHz
ESA condition: According to item 2 of Annex 9 of the Regulation

3.3.2.1 Test results

There is no degradation of performance of "immunity related functions".
The requirements of item 6.7.2.2 of the Regulation are fulfilled.

3.4 Measurement of the immunity to transient disturbances conducted along supply lines

The test is performed on 12V and 24V voltage system.

Method of testing: ISO7637-2, second edition 2004
Test pulse number: 1, 2a, 2b, 3a/3b,4
Immunity test level: III
ESA condition: According to item 4 of ISO7637-2, second edition 2004 and
Amd1: 2008

3.4.1 Test results
12 V system

Test pulse number	Test voltage	Number of pulses/duration	Required functional status	Functional status during test
1	-75V	5000 pulses	C	C
2a	+37V	5000pulses	B	A
2b	+10V	10 pulses	C	C
3a	-112V	1 h	A	A
3b	+75V	1 h	A	A
4	-6V	1 pulse	C	C



General Test Report

24 V system

Test pulse number	Test voltage	Number of pulses/duration	Required functional status	Functional status during test
1	-450V	5000 pulses	C	C
2a	+37V	5000 pulses	B	A
2b	+20V	10 pulses	C	C
3a	-150V	1 h	A	A
3b	+150V	1 h	A	A
4	-12V	1 pulse	C	C

The requirements of item 6.8.1 of the Regulation are fulfilled.

3.5 Measurement of Emission of transient conducted disturbances generated by ESAs on supply lines

The test is performed on 12V and 24V voltage system.

Method of testing: ISO7637-2, second edition 2004
ESA condition: According to item 4 of ISO7637-2, second edition 2004 and Amd1: 2008

3.5.1 Test results

12 V system

Polarity of pulse amplitude	Maximum allowed pulse amplitude for vehicle with 12 V system	Result
Positive	+75V	Pass
Negative	-100V	Pass

24 V system

Polarity of pulse amplitude	Maximum allowed pulse amplitude for vehicle with 24 V system	Result
Positive	+150V	Pass
Negative	-450V	Pass

The requirements of item 6.9.1 of the Regulation are fulfilled.



General Information

[]	Numbering according to annex 3B of the type-approval certificate following Regulation No.10 Communication concerning the type-approval / extension of type-approval	
	EC type-approval mark to be affixed on ESA :	E13 10R 04
[1.]	Make (trade name of manufacturer)	RG
[2.]	Type and general commercial description: Type: Commercial description(s):	F0401V1 Work lamp
[3.]	Means of identification of type, if marked on the vehicle/ component/ separate technical unit:	See item 6
[3.1.]	Location of that marking:	See item 6
[4.]	Category of vehicle:	Not applicable
[5.]	Name and address of manufacturer:	Foshan Ruiguang Auto Lighting & Electrical Co., Ltd. 2F, Block B, Tangtou Science Industrial Park, Shishan Town, Nanhai District, Foshan City, Guangdong Province, P.R. China
[6.]	In the case of components and separate technical units, location and method of affixing of the approval mark:	Marked on the lens
[7.]	Address(es) of the production plant(s):	Foshan Ruiguang Auto Lighting & Electrical Co., Ltd. 2F, Block B, Tangtou Science Industrial Park, Shishan Town, Nanhai District, Foshan City, Guangdong Province, P.R. China
[8.]	Additional information: (where applicable)	See appendix
[9.]	Technical service responsible for carrying out the tests:	ATE EL s.à r.l. 14, op Huefdreisch L-6871 Wecker
[10.]	Date of test report:	01.09.2015
[11.]	Number of test report:	65RGA0009A



General Information

[12.] Remarks: (if any): See appendix

[13.]

[14.]

[15.]

[16.]

[17.] Reasons for extension: Not applicable

Appendix to type-approval communication form No. 65RGA0009A concerning the type-approval of an electrical/ electronic sub-assembly under Regulation No. 10

[1.] Additional information:

[1.1.] Electrical system rated voltage: 12V/24V DC, negative ground

[1.2.] This ESA can be used on any vehicle type with the following restrictions: None

[1.2.1.] Installation conditions, if any: None

[1.3.] This ESA can only be used on the following vehicle types: Not applicable.

[1.3.1.] Installation conditions, if any: Not applicable.

[1.4.] The specific test method(s) used and the frequency ranges covered to determine immunity were: (please specify precise method used from Annex 9)
Absorber chamber test according to ISO 11452-2, second edition 2004 (from 200-2000MHz)
Bulk current injection test according to ISO 11452-4, third edition 2005 and Corrigendum 1:2009 (from 20-200MHz)

[1.5.] Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: Not applicable.

[2.] Remarks: None

Type: **F0401V1****FOSHAN RUIGUANG AUTO
LIGHTING&ELECTRICAL CO.,LTD.**Date : AUG.2015
Ext. : 00

UNIFORM PROVISIONS CONCERNING THE EC TYPE-APPROVAL OF AN
ELECTRIC/ELECTRONIC SUBASSEMBLY WITH RESPECT TO ELECTROMAGNETIC COMPATIBILITY

REGULATION No. 10.04
(Information Document No. F0401V1-00-R10)

INDEX OF DOCUMENTATION

<i>Page</i>	<i>Concept</i>	<i>Date</i>
2	GENERAL	AUG. 2015
3	LOCATION OF THE ECE APPROVAL MARK	AUG. 2015
4	SCHEMATIC OF THE DEVICE	AUG. 2015
5	LIST OF PARTS CONSTITUTING THE ESA	AUG. 2015

APPLICATION HISTORY

Extension No.	Extension Reasons	APPLICATION DATE
00	Not applicable(Base Approval)	AUG. 2015

Type: **F0401V1****FOSHAN RUIGUANG AUTO
LIGHTING&ELECTRICAL CO.,LTD.**Date : AUG.2015
Ext. : 00GENERAL

1. Make (trade name of manufacturer): **RG**
2. Type: **F0401V1**
Commercial description(s): **Work lamp**
Function: **A device for illuminating a working area or process**
3. Means of identification of type, if marked on the component/separate technical unit (a):
 - 3.1. Location of that marking:

Marked on Lens
4. Name and address of manufacturer:

**FOSHAN RUIGUANG AUTO LIGHTING&ELECTRICAL CO.,LTD.
2F,Block B, Tangtou Science Industrial Park, Shishan Town, Nanhai District,
Foshan City, Guangdong, P.R.China**

Name and address of authorised representative, if any: **N.A**
5. In the case of components and separate technical units, location and method of affixing of the EC approval mark:

Marked on Lens, See drawing of the ESA.
6. Address(es) of assembly plant(s):

**FOSHAN RUIGUANG AUTO LIGHTING&ELECTRICAL CO.,LTD.
2F,Block B, Tangtou Science Industrial Park, Shishan Town, Nanhai District,
Foshan City, Guangdong, P.R.China**
7. This ESA shall be approved as a component/STU²⁾: **Component**
8. Any restrictions of use and conditions for fitting: **Not Applicable**
9. Electrical system rated voltage: V, positive/negative²⁾ ground
12V/24V DC, negative ground

Type: **F0401V1**

**FOSHAN RUIGUANG AUTO
LIGHTING&ELECTRICAL CO.,LTD.**

Date : AUG.2015
Ext. : 00

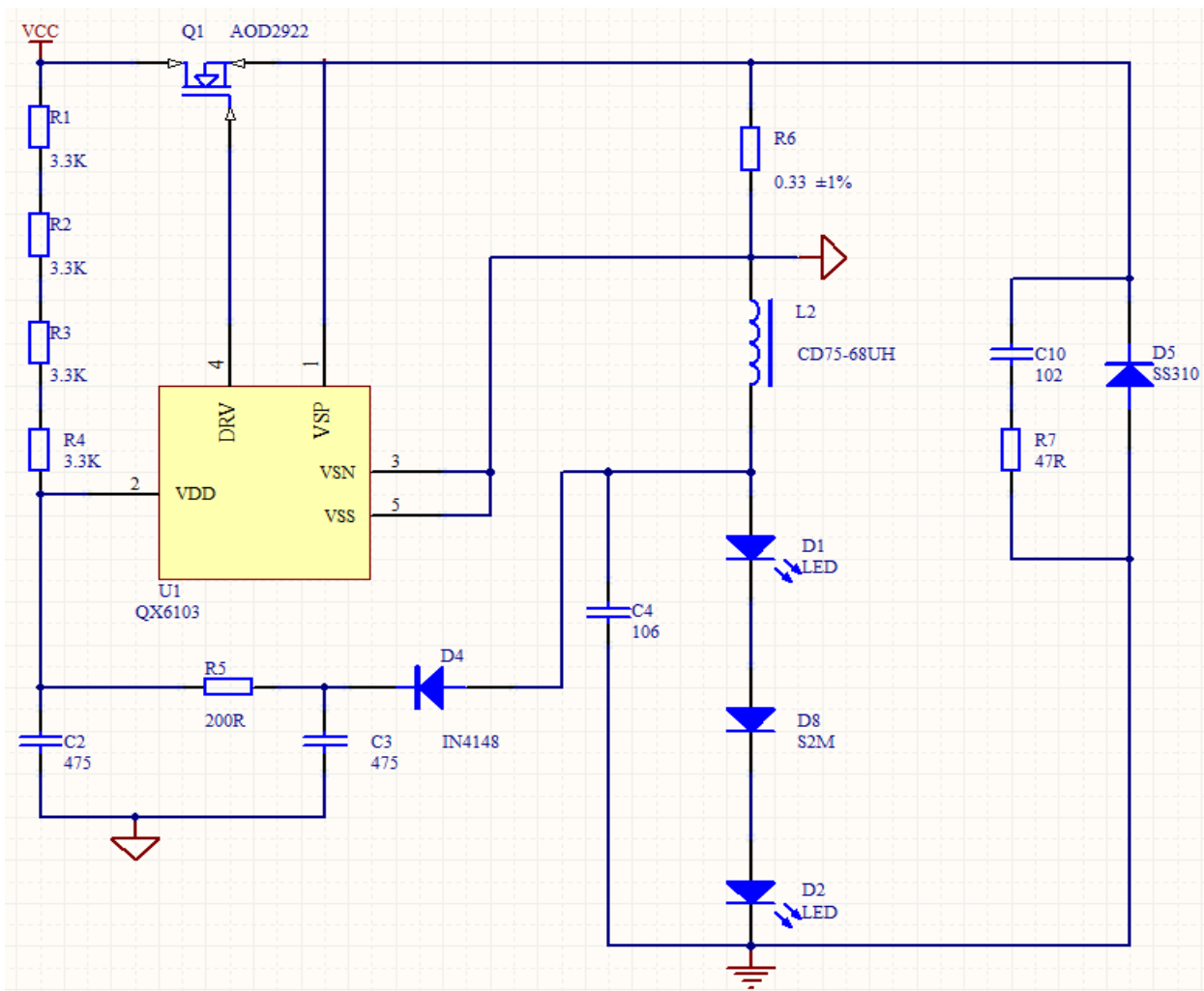
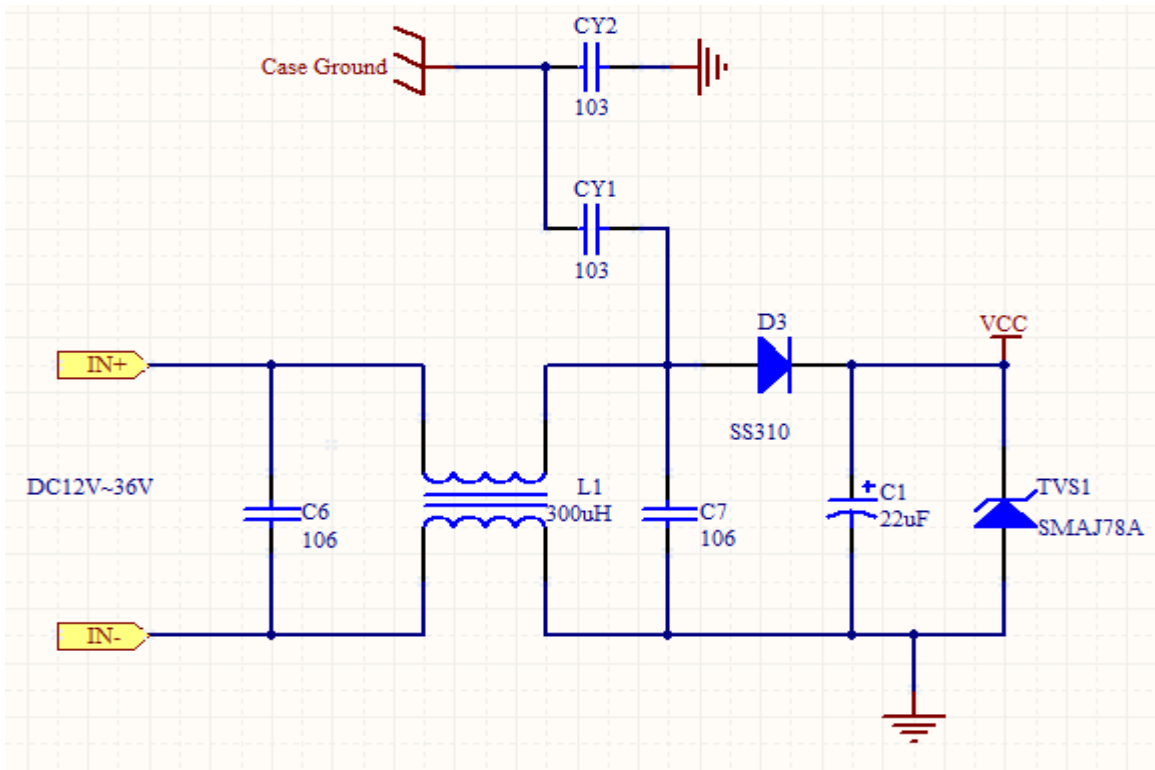


E13 10R-04 XXXX

Type: F0401V1

FOSHAN RUIGUANG AUTO LIGHTING&ELECTRICAL CO.,LTD.

Date : AUG.2015
Ext. : 00



Type: **F0401V1****FOSHAN RUIGUANG AUTO
LIGHTING&ELECTRICAL CO.,LTD.**

Date : AUG.2015

Ext. : 00

NO.	Code number	Parametric description	Qty	remark
1		F0401V1 Printed board, 1060 aluminum grade, White,1.0,	1	
2	R6	Resistance,0.33 Ω , $\pm 1\%$,1206	1	
3	R7	Resistance,47 Ω , $\pm 5\%$,1206	1	
4	R5	Resistance,200 Ω , $\pm 5\%$,0805	1	
5	R1 R2 R3 R4	Resistance,332, $\pm 5\%$,0805	4	
6	C1	Capacitance,22uF/100V Φ 8*10.5	1	
7	C2 C3	Capacitance,475/50V,10%,1206	2	
8	C4	Capacitance,106/50V,10%,1206	1	
9	C6 C7	Capacitance,106/100V,10%,1210	2	
10	CY1 CY2	Capacitance,103/100V,10%,1206	2	
11	C10	Capacitance,102/500V,10%,1206	1	
12	D4	Diode,IN4148,LL34	1	
13	D3 D5	Diode,SS310,SMA	2	
14	D8	Diode,S2M,SMA	1	
15	TVS1	Diode, transient-suppression ,SMAJ78A SMA	1	
16	L2	Inductance,680, $\pm 10\%$,CD75	1	
17	L1	Inductance, 301, $\pm 10\%$	1	
18	D1 D2	LED,3W,CREE-XPE, Blue	2	
19	Q1	MOSFET,AOD29922,TO-252	1	
20	U1	Integrated IC, high light LED driver,QX6103,SOT23-5	1	