Test Report:
**201433176**

DEKRA

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|---|---|---|
| Applicant | : | **Redtronic Ltd., Elland HX5 9BX, United Kingdom** |
| Type | : | **Mega-Flash Bullitt LED Microbar** |

# Test Report

Durability confirmation of a magnetic lightbar for highspeed and emergency braking tests.



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MANUFACTURERS OF EMERGENCY EQUIPMENT

| | | |
|---|---|---|
| Automotive part | : | Lightbar (magnetic) |
| Type | : | Mega-Flash Bullitt LED Microbar |
| Trade name | : | Mega-Flash Microbar |
| Manufacturer | : | REDTRONIC |
| Applicant | : | Redtronic Limited<br>Unit 9 Wellington Business Park<br>Quebec Street<br>Elland<br>West Yorkshire<br>HX5 9BX<br>United Kingdom |
| Year of manufacture | : | n.a. |

| | | |
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| Type | : | **Mega-Flash Bullitt LED Microbar** |

## I Scope

Testing the durabiltiy of a magnetic lightbar type "Mega-Flash Bullitt LED Microbar". In cooperation with the applicant the durability was tested by a highspeed and emergency braking test.

Preliminary remark

The test included the data acquistion for masses and dimesions, the dynamic high-speed und braking tests.
The test comprised no checkup for the electronic components.

Applicant : Redtronic Limited
Unit 9 Wellington Business Park
Quebec Street
Elland
West Yorkshire
HX5 9BX
United Kingdom

## II Technical Details of the appraised lightbar

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|---|---|---|
| Technical documents (mounting informations) | : | n.a. |
| Automotive part | : | Lightbar (magnetic) |
| Type | | Mega-Flash Bullitt LED Microbar |
| Identical-No. | : | none |
| Weight | : | 1.440 g |
| Dimensions | | |
| Length | : | 253 mm |
| Width | : | 177 mm |
| Height | : | 55 mm |
| Max. distance between magnetic foots (centre, lateral) | : | n.a. |
| Min. distance between magnetic foots (centre, lateral) | : | n.a. |
| Distance between magnetic foots (centre, longitudinal) | : | 110 mm |

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|---|---|---|
| Number of magnetic foots | : | 2 |
| Diameter magnetic foots | : | 88 mm |
| Height magentic foots | : | 8 mm |
| Manufacturer magnets | : | Ningbo Newland Magnetics Co. Ltd, China |
| Remark | : | The magnetic foot is directly mounted on the plastic body with 1 cetral screws. |

## III Test protocol

### 1 Test conditions

| | | | |
|---|---|---|---|
| 1.1 | Test vehicle | | |
| 1.1.1 | Name of manufacturer | : | Volkswagen |
| 1.1.2 | Type / Engine code | : | VW611 / BGH (246 kW) |
| 1.1.3 | Trade name | : | Phaeton |
| 1.1.4 | Vehicle class | : | M1 |
| 1.2 | Measuring and testing epuipment | : | Measuring and evaluation system<br>Speed sensor<br>Footpedal sensor<br>Decelaration sensor<br>Scale<br>Measuring tape |
| 1.3 | Further requirements | | |
| 1.3.1 | Weather conditions | : | Cloudy |
| 1.3.2 | Air temperature (°C) | : | 14 |
| 1.3.3 | Wind velocity (m/s) | : | < 3,0 |
| 1.3.4 | Date of test | : | 30.05.2014 |
| 1.3.5 | Test area | : | DEKRA Test Oval, 01998 Klettwitz, Germany |

### 2 Mounting and preparation

The Redtronic lightbar type "Mega-Flash Bullitt LED Microbar" was mounted at a dry and clean roof of the test vehicle. Easy installation with magnetic foot. Afterwards was checked if the complete magnetic surface is in contact with the roof.

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## 3 Highspeed test

| Test run | Tested speed [km/h] | Position Lightbar |
|---|---|---|
| 1 | 246,1 | OK |
| 2 | 247,1 | OK |

## 4 Braking test

The Braking test was made from different test speeds with an emergency brake!

| Test run | Test speed [km/h] | Measured brake performance [m/s$^2$] | Measured force applied to control[N] | Position Lightbar |
|---|---|---|---|---|
| 1 | 100 | 10,62 | 516 | OK |
| 2 | 150 | 10,46 | 413 | OK |
| 3 | 200 | 10,15 | 344 | OK |
| 4 | 240 | 9,36 | 253 | OK |

## 5 Remarks

None

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## IV Statement

The result of the test is, that the durability of the lightbar "Mega-Flash Bullitt LED Microbar" can be confirmed. The lightbar was tested up to a speed of 247 kph and a deceleration rate of more than 10,00 m/s$^2$ (this is equivalent to an emergency brake). There was no movement of the lightbar on the roof after the tests recognizable.

For the customers is an instruction manuel necessary! With mounting instructions of the lihgtbar, that is has to be fixed by dry and clean conditions on a magnetic roof. Further the connection between the magnetic foot and the roof has to be checked continously.

The Test Report comprises the pages 1 to 9. (including annex)
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Federal Republic of Germany
Test Laboratory D-PL-11060-01-00
Inspection Body D-IS-11060-01-00

Klettwitz, 04.06.2014

Dipl.-Ing.(FH) René Kölling
Specialist

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Mega-Flash Bullitt LED Microbar (front view, top view)





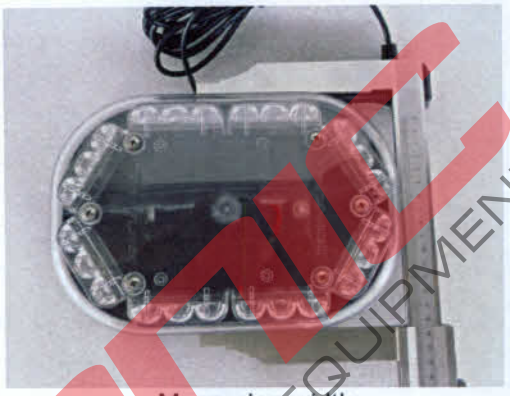
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Details



Measuring length



Measuring width



Measuring height



Central screw for each magnet for the connection to the body



Measuring diameter magnet



Measuring central distance between magnets

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Test Vehicle








REDTRONIC MANUFACTURERS OF EMERGENCY LIGHTING EQUIPMENT

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Measuring and tesing equipment



Data Logger



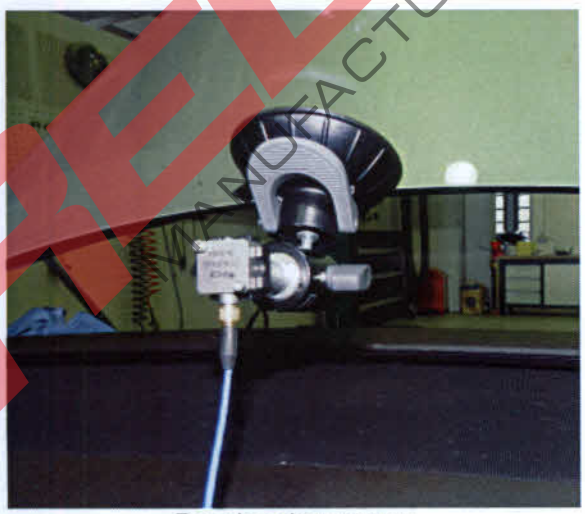
Footpedalforce sensor



Display



GPS Mouse



Deceleration sensor

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