TEST REPORT

NUMBER: LECH00343842D

APPLICANT: Suck UK Limited
31 Regent Studios
8 Andrews Road
London
E8 4QN

For the attention of Emma

SAMPLE DESCRIPTION: Fetch My Keys – Keychain key finder

REFERENCE / STYLE NO.: SKFETCH1

RETAILER: Not specified

SAMPLE RECEIVED: 19th September 2013

PURCHASE ORDER: Not specified

TEST REQUEST: **IEC/EN 60825-1 (2001-7)

CONCLUSION: The “Fetch My Keys – Keychain key finder” meet the requirements for a Class 1 LED product to IEC/EN 60825-1 (2001) under normal operating conditions and those of single fault failure.

Tests marked (*) in this Test Report are not included in the UKAS Accreditation Schedule for this Laboratory.
Tests marked (^) in this Test Report have been sub-contracted to an agent approved by Intertek.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.
TEST REPORT

NUMBER: LECH00343842D

IEC/EN 60825-1 (2001-7)

1) Optical Sources

i) Manufacturer(s) and type details
The source is a red LED, manufacturer unknown.

ii) Wavelength(s) (State whether measured or manufacturers data)
Red: 621-636nm, with a peak at 630nm, measured with a spectrometer

iii) Pulsed or continuous
Pulsed

iv) If pulsed (data for each laser):
Manufacturers stated data:
None

Measured data (or reasons for not measuring):
They are treated as continuous wave at peak pulse power.

v) Other relevant data (e.g. beam diameter, beam divergence)
Beam diameter <1mm at each LED, and the divergence >30º

vi) Accessibility of Radiation (Locations for measurements)
The LED is directly accessible only when removed from the product.

2) Radiation Measurements

a) Control Settings (give details of settings used to maximise output)
None

b) Measured Output (give details of limiting aperture etc)

i) Meter(s) used for measurement:
The optical output was measured with Lasermet’s calibrated ADM1000 power meter and
diode head. The apparent source size was measured with a CCD camera and oscilloscope.

ii) Apparent Source size/angular subtense:
Manufacturers data:
None

Measured:
The apparent source size of the LED emitter was measured to be 0.80mm, equating to an
angular subtense of 8mrad at 100mm from the apparent source.

iii) Measurement Aperture
The accessible radiation from the LED was measured at source, through a 7mm aperture at
14mm from apparent source and through a 7mm aperture at 70mm from the source.

The condition 1 measurement is unnecessary in all cases as the radiation is widely divergent.
iv) Measurements

At Source: 0.753mW peak pulse power.
At 14mm: 0.217mW peak pulse power
At 70mm: 31.3µW peak pulse power.

v) Corrections, if any
None

c) AEL (give details)
The CW AEL for Class 1 (thermal) is given by:
\[ AEL = 7 \times 10^{-7} C_0 T_2^{0.25} \]\n\[ = 2.09 \text{mW} \]

\[ C_0 = 5.33 \]
\[ T_2^{0.25} = 1.77 \]

\[ = 2.09 \text{mW} \]

PASS Class 1

Long-term viewing of the optical sources is not inherent in the design of the product.

d) Reasonably foreseeable failures (effect of failure in drive circuitry etc)
The output from the LED was limited by the battery voltage. The peak power was taken as the continuous wave power for the LEDs.

The LED was removed from behind the diffuser.

e) CONCLUSION (tentative classification)
The LED cannot exceed the Class 1 limit under any conditions.

3) Required Accuracy of Measurements, Uncertainties
The peak output from the LED was less than 50% of the class limit for any hazard conditions. The total estimated measurement uncertainty was less than 20% at 95% confidence.

4) Engineering Controls
None required

5) Labelling
None required

6) User Information
None required

7) Class Awarded
Class 1, subject to the conditions below.

Conditions (state changes required for full conformity)
This classification is based on the performance of the LEDs supplied for testing. The manufacturer is responsible for ensuring that the samples supplied are representative and that sufficient quality control during manufacturing is in place to ensure that the classification is valid.
This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek’s provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.