



**Fraunhofer**

**TESTED<sup>®</sup>  
DEVICE**

JUNKOSHA.INC  
CLEAN FLEX-JKS108809  
**Report No. JU 1101-542**

DUPLICATE

Statement of  
Qualification

# Statement of Qualification

**Customer:** JUNKOSHA.INC  
881-1 Ishibashi  
Sakaigawa-Cho  
Fuefuki-shi, Yam anashi-ken, 406-0842  
Japan

**Test results:**  
(according to ISO 14644-1)

The cable system CLEAN FLEX-JKS108809 is suitable for use in cleanrooms fulfilling the Air Cleanliness Class 1.

## Component tested:

Category: Energy supply  
Subcategory: Cable system  
Type: CLEAN FLEX-JKS108809

## Random check measurements of particle emission (airborne) at representative points

Test procedure: According to VDI 2083 Part 9.1  
Measuring instruments being used: Model LasAir II 110 manufactured by PMS with measuring channels of  $\geq 0.1 \mu\text{m}$ ,  $\geq 0.2 \mu\text{m}$ ,  $\geq 0.3 \mu\text{m}$ ,  $\geq 0.5 \mu\text{m}$ ,  $\geq 1.0 \mu\text{m}$  and  $\geq 5.0 \mu\text{m}$   
Test parameters of the test environment:

- Cleanroom of Air Cleanliness Class ISO Class 1 (according to ISO 14644-1)
- Air flow velocity: 0.45 m/s
- Air flow guidance: vertical unidirectional air flow from ceiling to floor
- Temperature:  $22^\circ\text{C} \pm 0.5^\circ\text{C}$  ( $71.6^\circ\text{F} \pm 0.9^\circ\text{F}$ )
- Relative humidity:  $45\% \pm 5\%$

Test parameters of the test execution:

- Length of cable:  $l = 1000 \text{ mm}$
- Stroke length:  $s = 820 \text{ mm}$
- Parameters 1:  $v_1 = 0.5 \text{ m/s}$ ;  $a_1 = 1.0 \text{ m/s}^2$
- Parameters 2:  $v_2 = 1.0 \text{ m/s}$ ;  $a_2 = 2.0 \text{ m/s}^2$
- Parameters 3:  $v_3 = 2.0 \text{ m/s}$ ;  $a_3 = 5.0 \text{ m/s}^2$

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The measuring equipment used for the qualification is regularly calibrated and is based on national and international standards. In the case where no national standards exist, the measuring procedure used corresponds with technical regulations and norms valid at the time of the measurement. The documents drawn up for this procedure are available for viewing.


The validity of this certificate applies only to the mentioned product in this particular condition for a duration of 5 years.  
Further information: [www.tested-device.com](http://www.tested-device.com).

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Stuttgart, March 28, 2011  
Place, Date

  
i. A.   
Project manager