



valid until: November 18, 2027

Single product Outgassing Behavior VOC/SVOC

DUPPLICAT

This document only applies to the named product in its original state and is valid for a period of 5 years from the date the first document was issued. The document can be verified under www.tested-device.com.

Detailed information and parameters of the test environment can be found in the Fraunhofer IPA test report.

Fraunhofer
TESTED[®]
DEVICE
LAPPKOREA LLC
CR 8211 MC 3X0.14SQ
Report No. LA 2208-1345

Qualification Certificate

This is to certify that the product mentioned above, provided by

LAPPKOREA LLC
HWASEONG-SI, Korea

has been awarded a Fraunhofer certificate TESTED DEVICE bearing the report number LA 2208-1345.

The outgassing behavior of the cable UNITRONIC CLEANROOM FD 8211 MC 3 X 0.14SQ (color: black) at the stated temperatures was investigated according to VDI 2083 Part 17 and ISO 14644-15. Based on the outgassing rates determined for the specific surfaces, the following material classification was made for the corresponding Contaminant Category:

| Contaminant Category (x) | SER ¹⁾ 23 °C [g/unit*s] | ISO-ACC _e Class (x) based on 23 °C |
|--------------------------|---------------------------------------|--|
| VOC | 3.7×10^{-10} | -9.4 |
| SVOC | 2.2×10^{-10} | -9.6 |
| Amines | $< 4.6 \times 10^{-13}$ | -- |
| Organophosphates | $< 4.6 \times 10^{-13}$ | -- |
| Siloxanes | $< 4.6 \times 10^{-13}$ | -- |
| Phthalates | $< 4.6 \times 10^{-13}$ | -- |

¹⁾ SER_u: Unit-specific emission rate

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Stuttgart, November 18, 2022
Place, date of first document issued

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Report No. current document

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Place, current date

on behalf of



Fraunhofer
IPA