

生命周期评价[含产品碳足迹]**Verification Opinion****核查意见声明**

Organization 组织	超颖电子电路股份有限公司 Dynamic Electronics Co., Ltd. 中国湖北省黄石市经济技术开发区汪仁镇大棋大道特 88 号 邮编: 435003 No. 88, Daqi Avenue, Wangren Town, Economic & Technological Development Zone, Huangshi, Hubei, 435003, China
Opinion No. 声明号	PLCAV 835005-0
Verified as Satisfactory 无保留意见核查声明 Based on the processes and procedures conducted, it is concluded that the LCA (including the PCF) for 8-layer printed circuit board product 根据所实施的过程和流程, 我们得出结论, 8 层印刷电路板产品的生命周期评价 (包括产品碳足迹) - is materially correct and is a fair representation of LCA data and information 实质性正确, 且为生命周期评价数据以及信息的公正表达 - has been prepared in accordance with ISO 14040:2006, ISO 14044:2006 and ISO 14067:2018 按照 ISO 14040:2006, ISO 14044:2006 以及 ISO 14067:2018 编制	
LCA Statement 生命周期评价声明	Product LCA Report of 8-layer printed circuit [11/10/2025] 8 层印刷电路板产品生命周期评估报告 [2025 年 10 月 11 日]
Level of Assurance 保证等级	Reasonable Assurance 合理保证等级
Materiality 实质性水平	5%
Reporting Period 报告期	01/01/2024-31/12/2024
Verification Criteria 核查准则	ISO 14040:2006, ISO 14044:2006, ISO 14067:2018
Product System Boundary 产品系统边界	Cradle to Gate 摇篮到大门
Product Category Rules 产品种类规则	N/A
Declared Unit 宣告单位	1 square foot 8-layer Printed Circuit Board 一平方英尺的 8 层印刷电路板
LCA Software and Database LCA 软件以及数据库	Simapro 10.2.0.0 / Ecoinvent 3.11
LCA Result 生命周期评价结果	Refer to Appendix A and Appendix B 参见附录 A 及附录 B
Signed on behalf of BSI BSI 代表签署	Michael Lam – Senior Vice President, APAC Assurance 
Issue Date 签发日期	20/10/2025
Should there be a change in the life cycle of the product being assessed, the validity of this opinion statement will cease. 如果被评估产品的生命周期相关数据发生变化, 本意见声明的有效性将中止。	

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Note: Dynamic Electronics Co., Ltd. is responsible for the preparation and fair presentation of the LCA statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the LCA statement based on the verification.

注: 超颖电子电路股份有限公司负责按照商定的标准编制和公正表达 LCA 声明和报告。BSI 负责在核查的基础上对 LCA 声明发表意见。

Appendix A
Result of Product Environmental Footprint (not including Product Carbon Footprint)
附录 A 产品环境足迹（不包括产品碳足迹）评价结果

Impact Category Name	影响类别名称	Impact Result 影响结果	Unit 单位
Acidification	酸雨化	2.64E-02	mol H+ eq
Climate change (biogenic)	气候变化（生物）	1.09E-02	kg CO ₂ eq
Climate change (fossil)	气候变化（化石）	1.46E+01	kg CO ₂ eq
Climate change (land use)	气候变化（土地利用）	3.84E-02	kg CO ₂ eq
Ecotoxicity freshwater	淡水生态毒性	3.64E+01	CTUe
Ecotoxicity freshwater (inorganics)	淡水生态毒性（无机）	3.53E+01	CTUe
Ecotoxicity freshwater (organics)	淡水生态毒性（有机）	1.07E+00	CTUe
Eutrophication freshwater	淡水富营养化	2.45E-07	kg P eq
Eutrophication marine	海洋富营养化	4.00E-03	kg N eq
Eutrophication terrestrial	陆地富营养化	1.85E-03	mol N eq
Human toxicity cancer	人体致癌毒性	4.23E-02	CTUh
Human toxicity cancer (inorganics)	人体致癌毒性（无机）	9.02E-09	CTUh
Human toxicity cancer (organics)	人体致癌毒性（有机）	1.04E-09	CTUh
Human toxicity non-cancer	非致癌人体毒性	7.98E-09	CTUh
Human toxicity non-cancer (inorganics)	非致癌人体毒性（无机）	9.55E-08	CTUh
Human toxicity non-cancer (organics)	非致癌人体毒性（有机）	8.96E-08	CTUh
Ionising radiation (human health)	电离辐射（人类健康）	5.89E-09	kBq U235 eq
Land use	土地利用	2.92E-01	dimensionless (pt)
Ozone depletion	臭氧消耗	1.84E+01	kg CFC11 eq
Particulate matter	颗粒物	1.24E-07	disease incidence
Photochemical ozone formation (human health)	光化学臭氧形成（人体健康）	1.44E-02	kg NMVOC eq
Resource use fossils	化石资源利用	6.32E+01	MJ (net calorific)
Resource use minerals and metals	矿产和金属资源利用	3.37E-04	kg Sb eq
Water use	水稀缺足迹	1.75E+00	m ³ world eq

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Appendix B
Result of Product Carbon Footprint
附录 B 产品碳足迹评价结果

Declared Unit 宣告单位	Product Carbon Footprint 产 品碳足迹
1 square foot 8-layer Printed Circuit Board 一平方英尺的 8 层印刷电路板	14.60 kg CO ₂ eq

Additional information
补充信息

- No material misstatements in this product life cycle greenhouse gas emission statement were revealed.
本产品生命周期温室气体排放声明未发现实质性错误陈述。
- The product life cycle assessment (including Product Carbon Footprint) data quality was verified to be acceptable against the requirements of ISO 14040:2006, ISO 14044:2006, ISO 14067:2018.
产品生命周期评价（含产品碳足迹）数据质量经验证符合ISO 14040:2006, ISO 14044:2006, ISO 14067:2018的要求。
- The product system boundary is consistent with its system boundary definition in the LCA/CFP report for product carbon footprint, stages of life cycle include the acquisition of raw material and manufacture.
产品系统边界与生命周期评价/碳足迹报告中定义的产品碳足迹系统边界一致，生命周期阶段包括原物料获取和制造。
- The site-specific data include related facilities from its own processes under the operational control of the organization and individual processes under the financial or operational control of the organization undertaking the LCA/CFP study, based on type ****08TT0013J.
现场数据来自在进行生命周期评价/碳足迹研究中组织运行控制下的过程中的相关设施，以及组织财务或运行控制下的个别过程，基于型号****08TT0013J。
- Sources of secondary data include public documents, life cycle software Simapro 10.2.0.0 and Ecoinvent 3.11 Database. 次级数据来源包括相关的公开文献、生命周期评估软件Simapro 10.2.0.0及 Ecoinvent 3.11数据库。
- Should there be a change in the life cycle of the product are being assessed, the validity of this opinion statement will cease.
如果被评估产品的生命周期相关数据发生变化，本意见声明的有效性将中止。

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