

Eagle

EPD Kickoff

SH Son

Model Name: BFX-AT100

Document Version: ALT_STB_MP_CSMTINS_001

Issued Date: 2023.03.03



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All Life Technology Co., Ltd



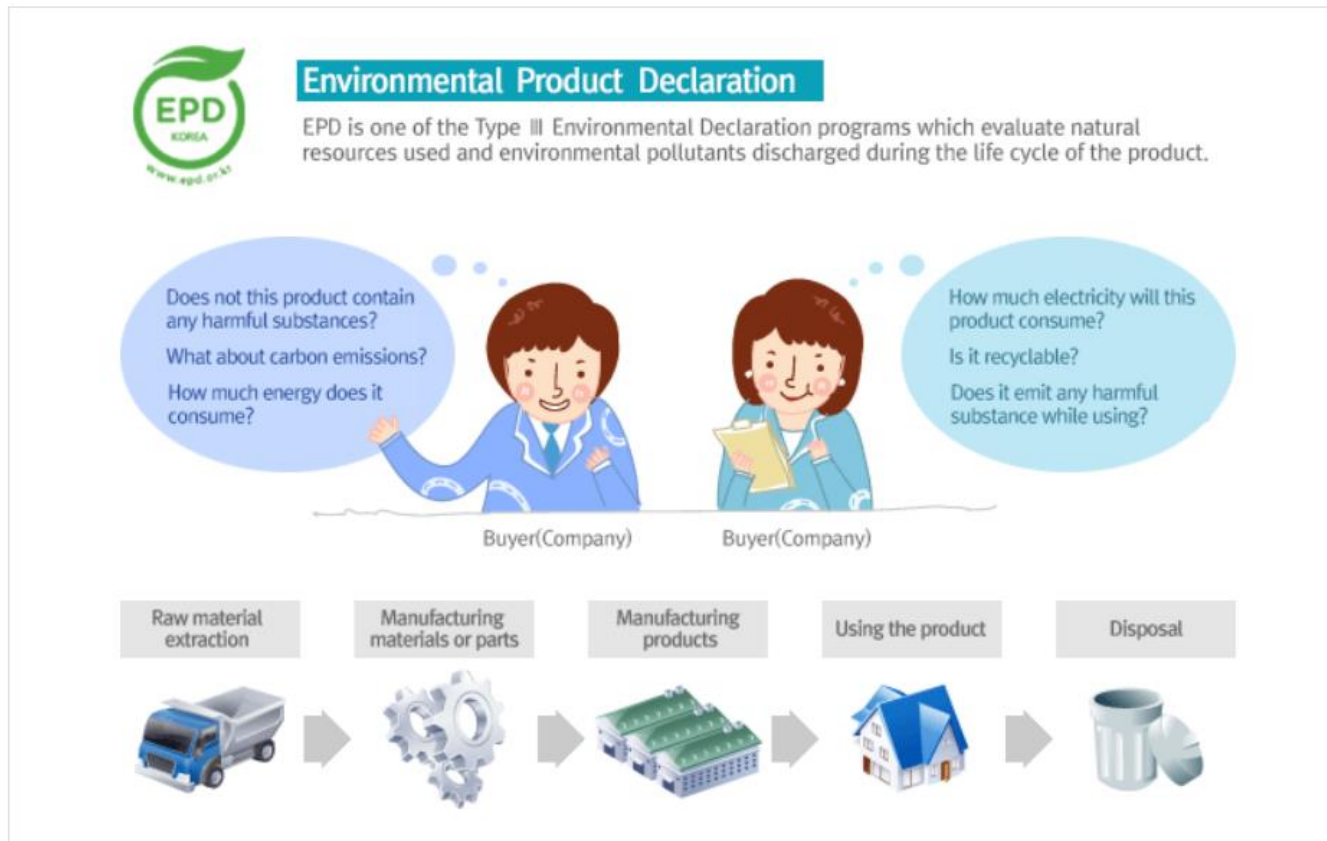
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Document History

Version	Editor	Date	Updates
001	SH Son (Seunghwan Son)	2023.03.01	initial version

• About Korea EPD

- Environmental Product Declaration Scheme provides environmental information of products transparently for the purpose to support the purchase of eco-friendly products and to lead the market-driven environment improvements.
- <https://www.greenproduct.go.kr/epd/eng/main.do>



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- Customer request EPD/LCP certification of this product
 - Model : Only T99X171.00
 - EPD (Environmental Product Declaration)
 - LCP (Low Carbon of Product)
- After certification, will add the labels as below
 - Just reference. It will be updated with drawings after certification



저탄소제품 (Low Carbon)



국문

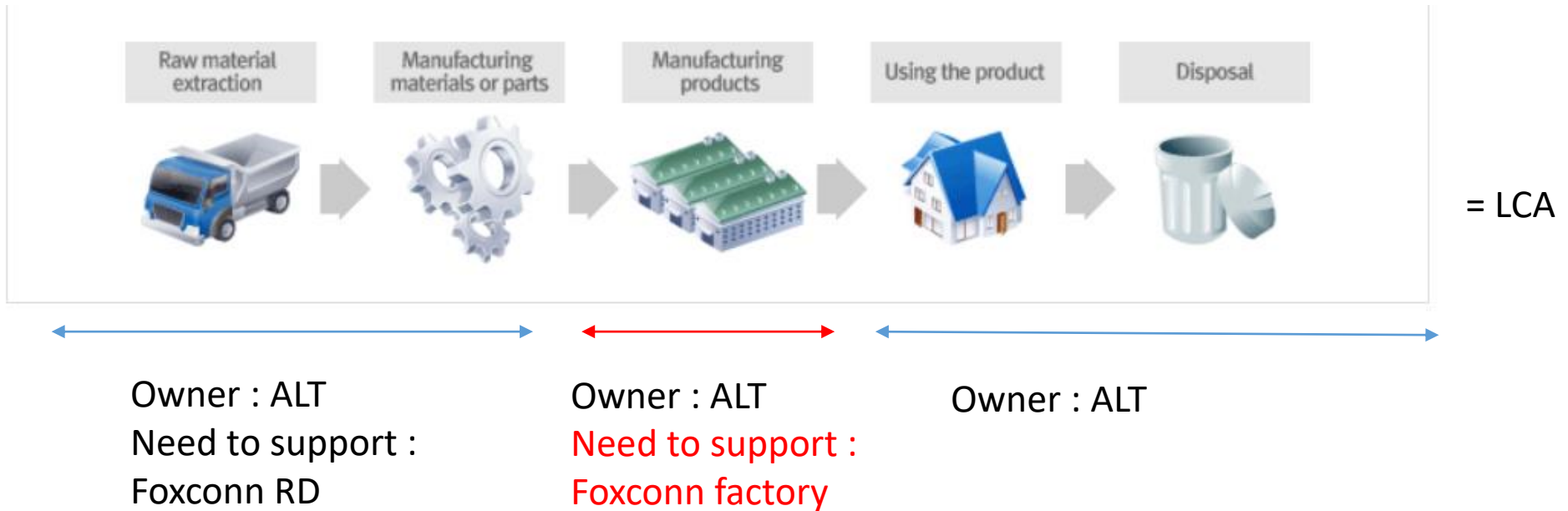


영문

	Event
2023.2	EPD consultant contract with ALT
2023.3	Request manufacturing process data of product - NEED TO SUPPORT from FACTORY
2023.4	Evaluate end user operation of product EPD process document submission – by ALT
2023.5	Foxconn Factory audit for EPD - NEED TO SUPPORT from FACTORY
2023.6	get certified EPD NEW Software release (TBD) - BY ALT
2023.9	LCP process document submission Evaluate end user operation of product for LCP - By ALT
2023.10	Foxconn Factory audit for LCP - NEED TO SUPPORT from FACTORY
2023.11	get certified EPD

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- Evaluate the product LCA (life cycle assessment)



- ALT is preparing new SW of lower power consumption version

- ALT will be prepare this information based on MP product.

II. 환경성적표지 인증 기초자료 데이터 작성서식

1. 1차 제외기준 선정

1.1 1차 제외기준

작성기준 : 부품명은 FA라인에 투입되는 기준으로 작성해주세요

2. 부품별 무게를 저울로 측정하고 사진 근거자료 첨부해주세요

* 각 FA 기준 명칭은 ALT에 대한 내용으로 항목이름 수정하여 사진 삽입 부탁드립니다.

순서	부품명	단위		비율	누적질량기여도(%)
1	Power adaptor	g	118.7	22.0%	22.0%
2	assay top cover with Heatsink	g	77.5	14.3%	36.3%
3	Rubber foot	g	3.9	0.7%	37.0%
4	CPU PCBA	g	48.4	9.0%	46.0%
5	HDMI Cable	g	76.4	14.1%	60.1%
6	리모컨+건전지	g	136.6	25.3%	85.4%
7	assay bottom cover	g	21.1	3.9%	89.3%
8	LAN Cable	g	56.6	10.5%	99.7%
9	thermal sheet	g	0.8	0.1%	99.9%
10	screw	g	0.7	0.1%	100.0%
11		g		0.0%	100.0%
12		g		0.0%	100.0%
13		g		0.0%	100.0%
14		g		0.0%	100.0%
15		g		0.0%	100.0%
	합계	g	540.7	100.0%	

1. power adaptor

(예시)
(각 조립단위별 무게측정사진 삽입)



2. assay top cover



3. rubber foot



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Evaluate manufacturing process of product

- For LCA this product, need to factory data as below
 - Based on 2022 production data (F16A line)
 - Only FA line data : F16A line total manufactured q'ty and electricity
 - Excluding SMT line data
 - The lines was changed, but we have to prove FA process is the same
 - i.g Manufacturing process, SOP, etc..

Data Sheet for LCA

1. This is a data collection sheet necessary to conduct LCA of BFX-AT100 model. Please fill out the green cells.

2. If you have any questions about this data form, please send me a mail : shson@altech.kr

1. TOTAL PRODUCTS MANUFACTURED ON SITE

No.	Number of product production	unit	total	2022. 1	2022. 2	2022. 3	2022. 4	2022. 5	2022. 6	2022. 7	2022. 8	2022. 9	2022. 10	2022. 11	2022. 12
1	Total numbe of products(munufactured in the same building)	EA	0												
2	Number of BFX-AT100 model	EA	-												

2. ELECTRICITY INPUTS

No.	scope building	category	unit	total	2022. 1	2022. 2	2022. 3	2022. 4	2022. 5	2022. 6	2022. 7	2022. 8	2022. 9	2022. 10	2022. 11	2022. 12
1	(in which BFX-AT100 model is manufactured)	electricity	kWh	0												

3. ASSEMBLY TIME

No.	scope	category	unit	total
2	Total time (munufactured in the same	time	hr	
3	BFX-AT100 model	time	hr	

Total time(hr/yr) = $\sum$ number of product model(EA/yr) $\times$ manufacturing time of product model(hr/EA)

BFX-AT100 model(hr/yr) = $\sum$ number of BFX-AT100 model(EA/yr) $\times$ manufacturing time of BFX-AT100 model(hr/EA)

4. OUTPUTS

No.	scope	category	eatment method	unit	total	2022. 1	2022. 2	2022. 3	2022. 4	2022. 5	2022. 6	2022. 7	2022. 8	2022. 9	2022. 10	2022. 11	2022. 12
3	BFX-AT100 model	product defect rat	select	%	0.00												

Evaluate manufacturing process of product

- For LCA this product, need to factory data as below
 - Weight information of parts unit is required
 -

Data Sheet for LCA

1. This is a data collection sheet necessary to conduct LCA of BFX-AT100 model. Please fill out the table below.
2. If you have any questions about this data form, please send me a mail : shson@altech.kr

1. The weight of printed wiring board

No.	Part name	unit	1	2	3	4	5	average
1	Bare PCB	kg						#DIV/0!
2	chip materials (Ics, Resistor, Diode, Transistor)	kg						#DIV/0!
3	Solder	kg						#DIV/0!
4	Others (connector, etc..)	kg						#DIV/0!
5		kg						#DIV/0!

Picture				
1	2	3	4	5

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- ALT will proceed this stage.
 - Measurement of product power consumption as Korea standard STB user scenario

$$TE_c = (DE_c + SP_d) \times Y_d \times D_t \times 10^{-3}$$

여기서, TE_c : 총 전력사용량, kWh
 DE_c : 1일 소비전력량, Wh/d
 SP_d : 1일 대기전력량, Wh/d
 Y_d : 연간 일수(365일/년), d/yr
 D_t : 셋톱박스 수명(5년), yr

$$DE_C = ON_{Ec} \times I_e$$

여기서, DE_C : 1일 소비전력량, Wh/d
 ON_{Ec} : 온모드 소비전력, W
 I_e : 1일 사용시간(4시간/일), h/d

$$SP_d = AS_{Ec} \times I_s$$

여기서, SP_d : 1일 대기전력량, Wh/d
 AS_{Ec} : 능동대기모드 소비전력, W
 I_s : 1일 대기시간(20시간/일), h/d

- Korea Ministry of Environment auditor will be audit the factory data
 - 1st : EPD (Environmental Product Declaration) factory data validation
 - 2nd : LCP (Low Carbon of Product) factory data validation
- data validation
 - Total electricity in building
 - Total manufacturing q'ty and T99X171.00 q'ty
 - T99X171.00 manufacturing SW version.
 - T99X171.00 manufacturing SOP

Thank you.

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