

SK Broadband

STB RMA Specification

for BFX-AT100

Document revision:0.1

Effectivity

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Revision History

Revision	Description of Change	Date
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1 Purpose of this document

This document is RMA specification of BFX-AT100 for in warranty STB. This specification is into details about manufacture repair for field returned STB. And RMA process flow.

2 RMA Specification

Purpose:

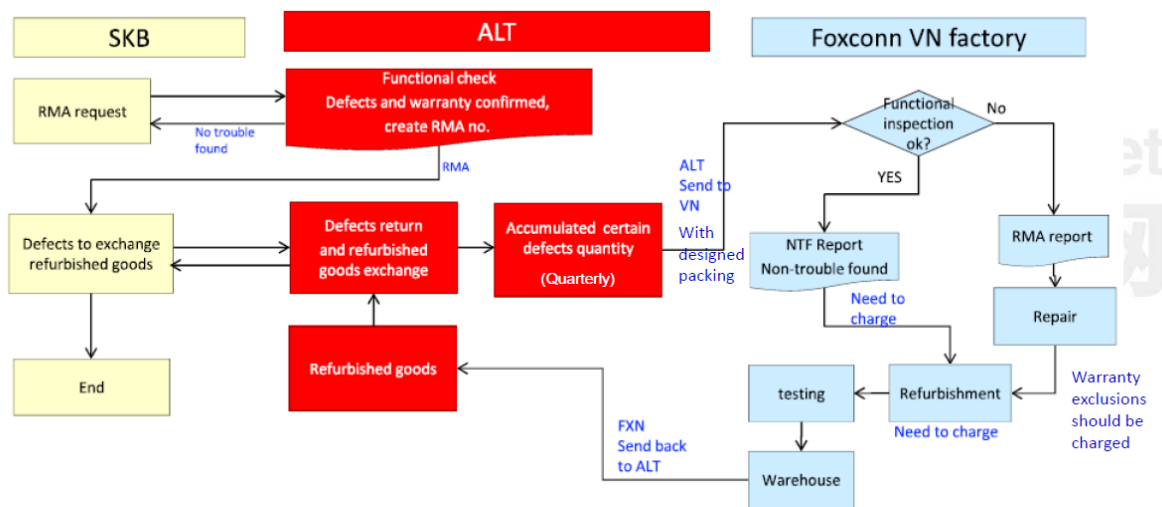
Defines the RMA specifications of the RMA process of BFX-AT100. Unspecified items will follow the Foxconn's standards. But, some of specifications may be changed upon request by the customer.

2.1 RMA process

Purpose:

To define RMA Process between ALT and Foxconn

Process flow:



2.2 RMA Ship out to VN Factory

ALT will be sent monthly base to VN factory per each lot

It is scheduled to be shipped every month. But, it may be omitted in some cases.

2.3 Customer RMA policy

ALT and Foxconn have to keep the customer RMA policy.

All returned STBs are customer property.

2.3.1 Factory RMA period

All units should be return back to the customer within a month.

2.3.2 Factory RMA is limited to STB only.

- ◆ Not included accessories, packing materials and buy and sell items (RCU and Adaptor)
- ◆ Foxconn RMA only responsible for the STB.

2.3.3 The information doesn't change in STB system nevertheless, change the PCBA or SoC.

- ◆ Mac address
- ◆ Customer Serial number

2.3.4 Packing requirement

- ◆ Using customer designed gift / carton for refurbishment.
- ◆ Packing separately – like new cosmetic and the others.

2.3.5 In case of not repairable, submit the detail report and return back not repairable STB. This is only limited to end customer fault.

2.3.6 Please report the RMA report in an attached file format.

2.4 Function test specification

Purpose:

Define the function test spec for RMA process.

Criteria:

Follow the mess production test specification. Please refer to the "BFX-AT100_Manufacturing Specification Section 3."

2.5 PCBA repair

Purpose:

Define the repair and rework criteria for the PCBA production process.

Criteria:

IPC-7711/21. Level of conformance Highest level. More details, please find the IPC-7711 rev.C.
But, some of acceptable condition may be changed upon request by the customer.

2.6 Cosmetic criteria only for RMA

2.6.1 Product

All product cosmetic components must be assembled.

And if any additional stickers adhere to housing, have to remove.

But cosmetic inspection(scratch) will be waived due to returned unit from end customer.

2.6.1.1 Top assembly

Cosmetic criteria: all top housing assembly should be assembled.

2.6.1.1.1 Protective film is attached:

Maintain a protective film as it is. It called "like new cosmetic "

2.6.1.1.2 Protective film is NOT attached:

Dust cleaning. And if any additional stickers adhere to housing, have to remove.

2.6.1.2 Bottom assembly

Cosmetic criteria: all top housing assembly should be assembled.

If the rubber foot is damaged or missing, it have to attach.

2.6.2 RMA Package

ALT will be packing customer material in Korea.

2.7 Packing

Purpose:

Define the requirements for RMA product packaging.

2.7.1 Device Labels

Criteria:

Label should be no damage and the barcode should be read normally.

- If device label has damaged, please re-issue the device label

2.7.2 Gift packing

Criteria:

Gift packing material should be used customer specifications.

Shockproof packaging should be applied during shipping.

Reference



2.7.2.1 Gift Labels

Criteria:

Customer S/N label should be attached on the gift box

Reference.



2.7.3 Caron packing

Criteria:

Carton box should be used customer specifications.

Packing separately – like new cosmetic and the others.

2.7.3.1 Carton Labels

Criteria:

Issue the carton serial number using customer system

The customer S/N in the packaged product should be attached.

Reference.



2.7.4 RMA Packing between Korea and Factory

Criteria:

No damage during delivery.

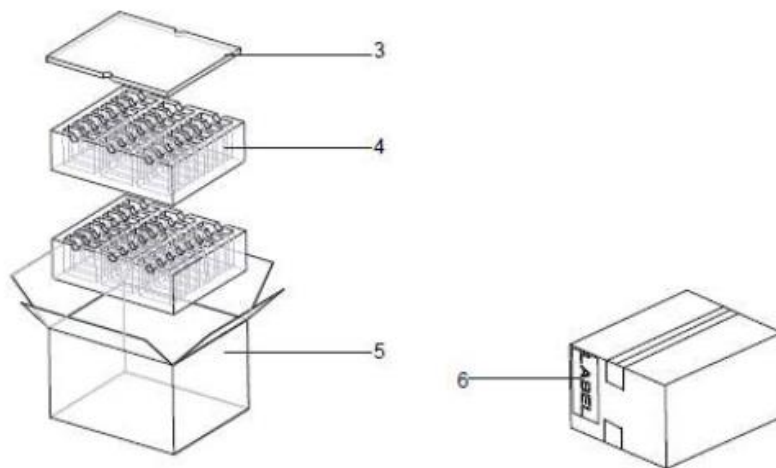
Packing materials for RMA has ALT property.

- Do not discard. should be reused during RMA for eagle project

RMA packing specification

- 1 carton will be packed 40 units per 1 carton.
- Carton: anti ESD DANPLA box
- Inner and sheet : EPE foam and sheet.

i.g.



2.8 Role and Responsibilities

Purpose:

Define the role and responsibilities for RMA process between ALT and Foxconn

2.8.1 ALT

2.8.1.1 Overall process handling

ALT will be shipped to Factory according to 2.7.4 packaging specifications.

2.8.1.2 Initial inspection.

Define the defect and assigned defect code each DUT.

Please refer to the Attachment #1 "RMA Report", ALT row.

2.8.1.3 Packing

ALT will be taking below process before delivery to customer.

2.7.2 Gift packing

2.7.2.1 Gift Labels

2.7.3 Caron packing

2.7.3.1 Carton Labels

2.8.1.4 Customer inspection for refurbishment.

2.8.2 Foxconn

2.8.2.1 Repair RMA product

All returned units should be the same as the normal product.

2.8.2.2 Write an RMA Report. In some cases, 8D reports should be submitted.

RMA report should be written concretely.

- If parts are replaced, the name of the replaced part must be recorded.
- In case of SoC failure, the manufacturer's FAR should be processed and the result report will be have to updated.
- Please update to the Attachment #1 "RMA Report", Foxconn row.

2.8.2.3 Return RMA product

IMPORTANT

The Factory must resend the RMA units within one month from the date of receipt after repair.

3 Test specification

Purpose:

Follow the mess production test specification. Please refer to the "BFX-AT100_Manufacturing Specification Section 3."

3.1 Burning

All repair / rework STB should be proceed burning applied FXN standard.

But It may be changed the test condition upon request by the customer.

4 Quality specification.

4.1 Cosmetic Inspection criteria

Purpose:

Define the separation criteria when packing. Cosmetic defects are not inspected at RMA process.

Criteria:

Protective film is attached or Not.

4.2 AQL LEVEL

Purpose:

Follow the mess production AQL level

Criteria:

AQL Level – 1.0 each lot should be passed.

4.3 OBA TEST ITEM

Purpose:

Follow the mess production OBA test specification. All STB function should be double checked from quality point of view.

Output:

OBA Test report should be submitted before shipment.

4.3.1 Visual inspection

Criteria:

SKIP.

4.3.2 Check front KEY (CH-/ + Key)

Criteria:

All Key should be work and feel the push sound and feeling of being pressed.

4.3.3 Check LED (Power ON and boot or standby)

Criteria:

All LED Color should be turn on the light each color – Red, Green, Blue, White
LED light uniformity on housing should be uniform

4.3.4 Check IR Remote Control function (Key Control)

Criteria:

RCU IR transmit and STB IR receive work properly

4.3.5 Check Bluetooth Remote Control function (Pairing/Un-Pairing and Key Control)

Criteria:

Bluetooth function should be work properly. – STB volume control, Voice input, Audio streaming

Bluetooth paring and unpairing work properly.

4.3.6 Check SW version

Criteria:

Default language: KOREAN

Model name:

Android TV - BFX-AT100

AOSP – BFX-UH200

Software version: depend on each PO or Lot.

4.3.7 Check YouTube APP for stream video test.

Criteria:

Stream video play working properly.

: Youtube 4K video play - VP9 codec check, Speed check

: Output resolution check – 3840 x 2160 @ 60hz

4.3.8 Check USB port.

Criteria:

USB port should be work properly.

: Check USB 2.0 / 3.0 device detection and device access

4.3.9 Check microphone test

Criteria:

Smart Karakoapp –Downing Everyising App form internet for microphone test

-> Skip due to SKB network is not available

4.3.10 Check Reset to default function

Criteria:

Factory reset should be work properly.

5 Customer special requirements.

The Customer special requirements must be followed. Also, it may be changed upon request by the customer.

5.1 RMA documents.

Purpose:

To define RMA output documents after RMA. Factory should be submitted these documents before shipment.

5.1.1 Method of transferring

5.1.1.1 e-mailto:

bylee@altech.kr

jwkim@altech.kr

hylee@altech.kr

syyoon@altech.kr

shson@altech.kr

sbpark@altech.kr

5.1.1.2 when

Every shipment

5.1.1.3 Output document list (sample)

Attachment #1 "RMA Report"

Attachment #2 "OBA Inspection report_Rev1.0"

6 Appendix.1.

6.1 Defect code label

The defect code label will be attached on the bottom case.

<reference>



6.2 Defect code

SKB Defect code	SKB System code	Defect Symptom
10	E01	LED failure
19		Voice input failure
20		LAN connector failure
21		WAN connector failure
23	AS01	USB failure
25	V02	HDMI failure
70	P01	No power or Power connection failure
100	N01	Internet connection failure
120	B07	Abnormal rebooting
121	B02	booting failure
122	S11	Android system reset failure
140	V01	TV Screen failure

142	A01	Voice search failure
144	F01	IR receive failure
147	N01	SKB authorization failure
154	S01	SW update failure
156	D04	KEY failure

*some of defect code can be changed or added according to the customer's quality policy.

End of Document.