

Manufacturing Specification for BFX-AT100

Document revision :0.1

Effectivity

- BFX-AT100 1st MP ~

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Revision History

Revision	Description of Change	Date
0.1	Draft release	2019.07.01

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1 Purpose of this document

This specification is for manufacturing BFX-AT100. This spec is forced on mass production process, HW component functionality check and validation.

2 Manufacturing Specification

Purpose:

Defines the overall specifications of the mass production and manufacturing process of BFX-AT100. Unspecified items follow the Foxconn's standards. But, some of specifications may be changed upon request by the customer.

2.1 Manufacturing process

Purpose:

To define the confirmation process of production conditions for each PO or Lot, and Shipment approval process

Process flow:

// TBD. First, Process discussion and define with ALT and FXN, will be update.

2.2 ECR Process (Change the manufacturing BOM)

Purpose:

Define the procedures that should be followed when the reason for the part change occurs. Basically, design and parts changes after final approval are subject to approval by the customer.

Process flow:

// TBD. First, Process discussion and define with ALT and FXN, will be update.

FXN request the ECN to customer.

: PROCESS TBD

ALT or customer request the ECR to FXN

: PROCESS TBD

2.3 Production data Traceability

Purpose:

Production data will be used maintain product and quality Prediction. In some cases,

production data may be requested by the customer

Criteria:

All production data should be kept up to 3 years after EOL of this product.

2.4 PCBA Process

Purpose:

Define the inspection criteria for the PCBA production process.

Criteria:

IPC-A-610 Class 2. Acceptable Condition. More details, please find the IPC-A-610 rev G.

Such as - Soldering and mount, insert conduction, PTH fill up, BGA void, assembly visual inspection.

But, some of acceptable condition may be changed upon request by the customer.

2.5 Packing

Purpose:

Define the requirements for product packaging.

2.5.1 Labels and Serial number

Criteria:

Should be manufactured according to customer's requirements.

- Each serial number - SET, GIFT, CARTON and Pallet
- Each Labels - SET, GIFT, CARTON and Pallet

Refer to the production spec document in details

2.5.2 Gift packing

Criteria:

The packing accessory (in-box items) shall not be missing.

Refer to the production spec document in details - In-Box items

2.5.3 Carton packing

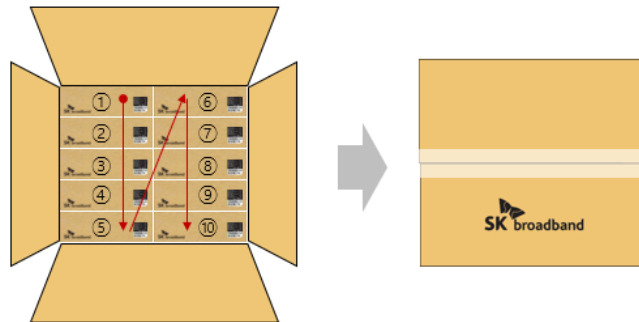
Criteria:

One carton box shall be packed in order of SKB number.

Such as 1 carton packed SKB S/N in numerical order 10 pcs.

(AAABBBB001YYYYMMXXXX01 ~ AAABBBB001YYYYMMXXXX10)

<reference>



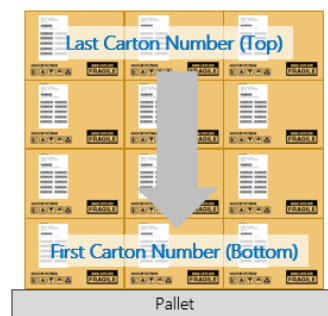
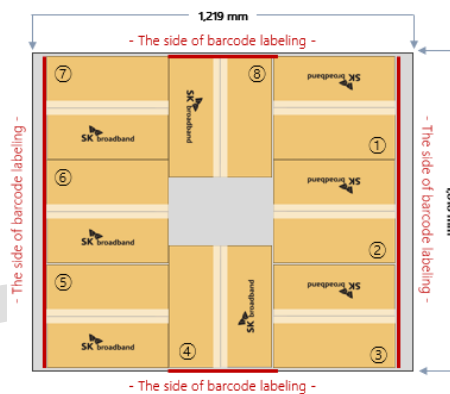
2.5.4 Pallet packing

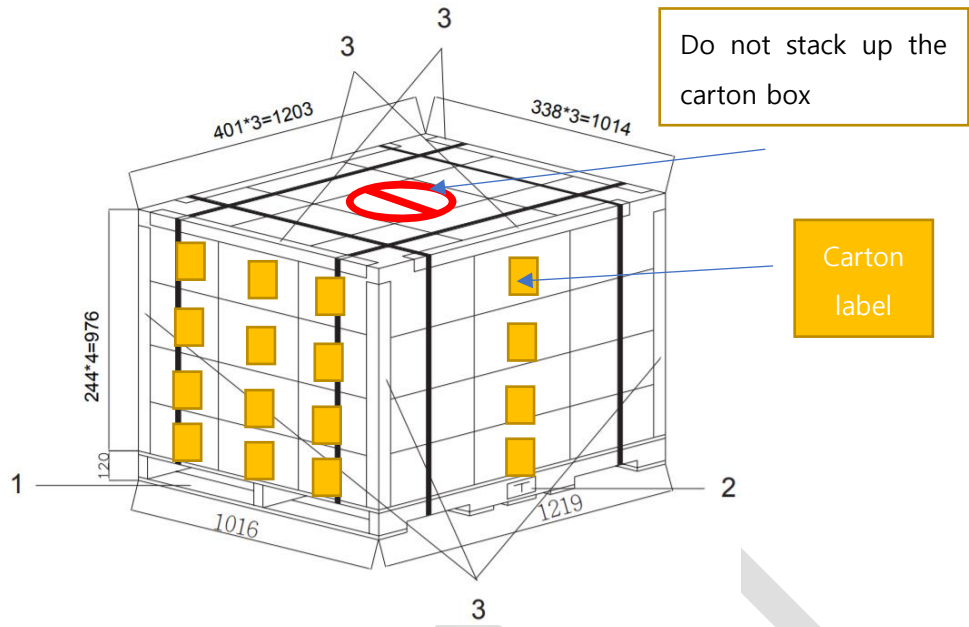
Criteria:

- When pallet packing the carton, carton label barcode should be visible and can be scan
- Inner line do not stack up the carton box

Refer to the production spec document in details

<reference>





3 Test specification

Purpose:

Based on HW requirements form the customer, all product should be tested requirements functions in the factory.

More details, please find the Mantis history.

<https://mantis.cnsbg.foxconn.com/vaas/view.php?id=465>

3.1 System

	Part	Test item	Criteria
System	SoC	Secure boot	Enabled
		OTP Lock	locked
		CPU temperature	measurement CPU temperature - Spec: TBD
	DRAM	DRAM size check	DDR4 SDRAM 3G - 1GB*2, 512MB*2
	Flash memory	Check Firmware	Checksum
	information	MAC: Ethernet, BT	should be unique
		Serial number	should be unique
		SKB Serial number	should be unique
		HDCP 1.4	should be unique and key validation
		HDCP 2.2 TX / RX	should be unique and key validation
		Widevine LV1	should be unique and key validation
		Playready	should be unique and key validation
		FW version	Check SW version
		Factory test SW version	Check SW version
	Software	SKBB SW booting check	Check SKBB Software booting OK

3.2 Peripheral

	Part	Test item	Criteria
Peripheral	HDMI	A/V play output	Check Video resolution: 4Kp60
			Check the Video and Audio
		CEC	Check CEC
	USB	link speed	Check 2.0 link speed

			Check 3.0 link speed
	RJ45	link speed	Check 1Gbps link speed
		Link and Active LED	Check LED (link and active) on/off
	3.5mm MIC Jack	Audio Record	Check Record sound
		Detection pin	Check MIC insert/extract
	DC Jack	Connector	Check Adaptor insert
	LED	Red	Check Red on/off
		Green	Check Green on/off
		Blue	Check Blue on/off
		White	Check All(RGB) led on/off
	IR	IR sensor	Check IR Receive
	KEY	CH UP	Check KEY operation
		CH Down	Check KEY operation
	Bluetooth	RF Radiation	Check RSSI check
		BT paring	Check paring to BT 4.2 device DUT or BT device

3.3 Burning

As is proceed the FXN standard. It can be changed below test condition upon request by the customer.

: Environment and Conditions and burning Q'ty

4 Quality specification.

4.1 Cosmetic criteria

Purpose:

Define defects and acceptable standards.

Criteria:

Please refer to the following document. "BFX-AT100_cosmetic criteria".

// TBD

4.2 AQL LEVEL and OBA

Purpose:

All STB function should be double checked from quality point of view.

As is proceed the FXN standard. It can be changed upon request by the customer.

Criteria:

AQL Level – 0.65 each lot should be passed.

4.3 OBA TEST ITEM

Purpose:

All STB function should be double checked from quality point of view.

The OBA test should proceed with the gift box components.

4.3.1 Visual inspection

Criteria:

This inspection criteria following the 4.1 Cosmetic criteria.

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 unparing work properly.

4.3.6 Check SW side

Criteria:

Default language: KOREAN

Model name: BFX-AT100

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 specification.

5.1 SKB serial number

Purpose:

This serial number management is mandatory requirement from the customer.

More details, please see the Mantis issue id 746. ([Link](#))

Criteria:

The SKB serial number range should be matched as ALT noticed serial number range.

5.2 TOP housing protection – Temporary solution.

Purpose:

To protect the housing scratch, maintain and wrap protective vinyl in gift packing process. It may be changed after scratch improvement solution or upon request to the customer.

Criteria:

The housing should be protected by a protective vinyl

Protect point:

- TOP of Housing
- Front and both Side.

<Picture >



5.3 Sample production

Purpose:

To define SKB S/N range about additional sample PO besides MP PO.

Only use SKB Serial serial number for sample production.

Each first 16 digit is prefixed value, next 6 digit in order sample production quantity.

ATV: **2149688001201999**000001~**2149688001201999**999999

AOSP: **2149687001201999**000001~**2149687001201999**999999