

Inspection Criteria for BFX-AT100

Document revision:0.3

Effectivity

- BFX-AT100 and BFX-UH200
- Mass production: 2019.12.1~

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Revision History

Revision	Description of Change	Date
0.1	Draft release	2019.07.24
0.2	Update 3.2 Scratch Criteria and "CH" printing standard and 2.3 Inspection angle	2019.08.27
0.3	Update 7.2 package criteria	2019.11.29
0.4	Update	

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1. Purpose of this document

This document is defined specifications of inspection of manufacturing for BFX-AT100 and BFX-UH200

1.1 Document scope.

Factory production inspection, Customer inspection.

To improve field issues, some of specifications may be changed upon request by the customer.

2. Definition.

2.1 Inspection condition

2.2 Lighting

As follow IPC-A-610G standard. "1.10 Lighting"

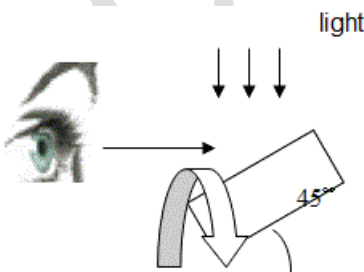
Illumination at the surface of workstations should be at least 1000 lm/m² [approximately 93 foot candles]. Light sources should be selected to prevent shadows.

Note: In selecting a light source, the color temperature of the light is an important consideration. Light ranges from 3000-5000°K enable users to distinguish various printed circuit assembly features and contaminates with increased clarity.

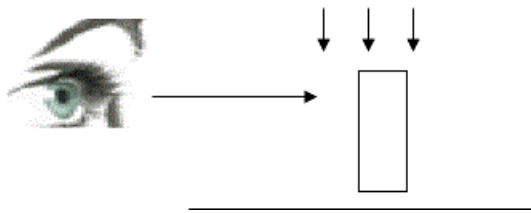
2.3 Inspection angle

Inspection process: Inspectors hold the device 40cm away from eyes and carefully inspect within 15s.

2.3.1 Front surface A (at 45 degrees)



2.3.2 Other surfaces (at zero degrees)

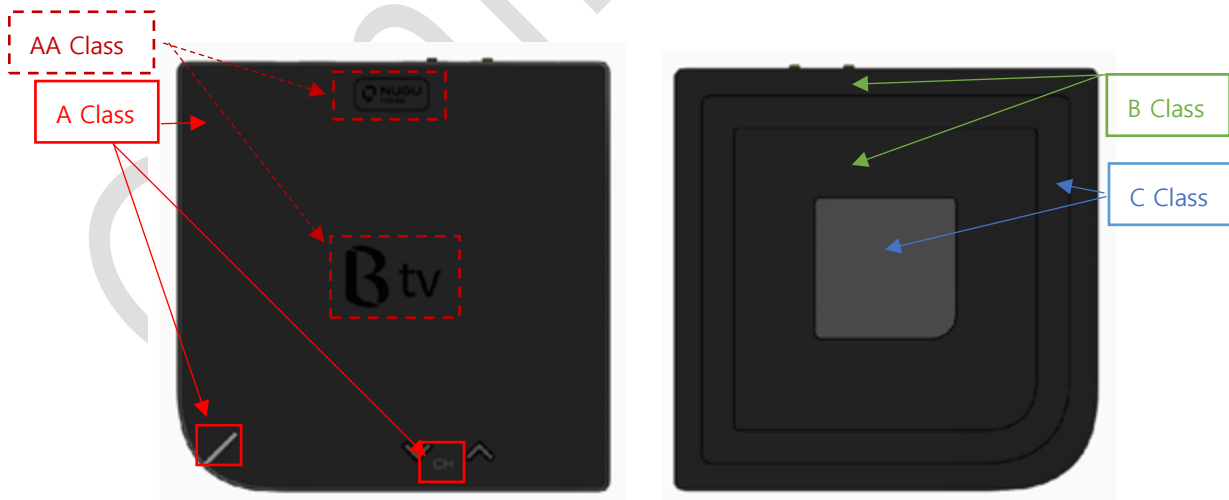


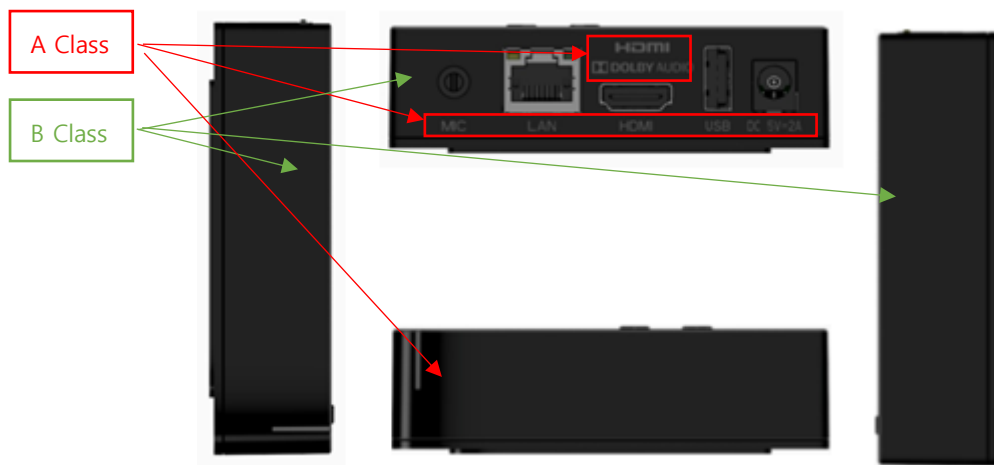
2.4 Inspection distance

Hold the product away from inspector 40cm

2.5 Class Definition

Class	Definition	Part & Location
AA	Customer special requirements.	Items: Logo, Label barcode.
A	Primary surface exposed to direct close-up view in ordinary use.	Items: Printed text, Label, Top and front side of housing, plastic part of key, LED light pipe.
B	Secondary surface exposed but not in direct view in ordinary use.	Items: Rear and each side of housing, bottom cover, I/O connector.
C	Surface not visible in ordinary use.	Items: inside housing, not visible area after assembly, other accessories.





3. Scratch

3.1 Define,

3.1.1 Class AA

Logo, Label barcode

3.1.2 Class A

Printed text, Label, Top side of housing, plastic part of key, LED light pipe. Front

3.1.3 Class B

Rear and each side of housing, bottom cover, I/O connector

3.1.4 Class C

inside housing, not visible area after assembly, other accessories.

3.2 Scratch Criteria

3.2.1 Class AA

Defect Sort	High gloss	Low gloss or Matte
Dot defect	Not Allowed*	Not Allowed*
Linear Scratch	Not Allowed*	Not Allowed*

* 5mm around logo considered as logo area

3.2.2 Class A

Defect Sort	High gloss	Low gloss or Matte
Dot defect	$S \leq 0.03\text{mm}^2$, not control $0.03\text{mm}^2 \leq S \leq 0.08\text{mm}^2$ Allowed quantity 1	$S \leq 0.05\text{mm}^2$, not control $0.05\text{mm}^2 \leq S \leq 0.1\text{mm}^2$, DS=10mm Allowed quantity 2 Dot defect can not feel.
Linear Scratch	$W \leq 0.05\text{mm}$ and $L \leq 1\text{mm}$ (DS>5mm) not control $W \leq 0.1\text{mm}$, $L \leq 3\text{mm}$ (DS>10mm) Allowed quantity 2	Acceptable conditions Max $w \leq 0.05\text{mm}$, $L \leq 12\text{mm}$ Allowed quantity 1

3.2.3 Class B

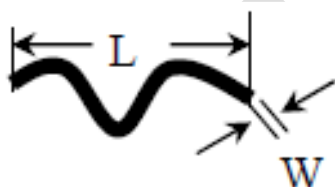
Defect Sort	High gloss	Low gloss or Matte
Dot defect	$S \leq 0.08 \text{mm}^2$, not control $0.08 \text{mm}^2 \leq S \leq 0.15 \text{mm}^2$, DS=10mm Allowable quantity 2 Dot defect can not feel.	$S \leq 0.1 \text{mm}^2$, not control $0.1 \text{mm}^2 \leq S \leq 0.15 \text{mm}^2$, DS=10mm Allowable quantity 2 Dot defect can not feel.
Linear Scratch	$W \leq 0.05 \text{mm}$ and $L \leq 10 \text{mm}$ (DS>15mm) not control $W \leq 0.1 \text{mm}$, $L \leq 20 \text{mm}$ (DS>20mm) Allowed quantity 3	$W \leq 0.05 \text{mm}$ and $L \leq 10 \text{mm}$ (DS>15mm) not control $W \leq 0.1 \text{mm}$, $L \leq 20 \text{mm}$ (DS>20mm) Allowed quantity 3

3.2.4 Class C

Defect Sort	High gloss	Low gloss or Matte
Dot defect	Appearance defects such as spots and scratches are not controlled, but the dimensions cannot be abnormal and cannot affect the assembly of the mechanism.	
Linear Scratch		

3.2.5 Remark

3.2.5.1 Scratch



3.2.5.2 Dot



$$D = (W + L) / 2$$

3.2.5.3 Can easy clean within 5 sec for dirty.

3.2.5.4 Not above list, signature limited sample.

3.2.5.5 Crack is Not allowed

3.2.5.6 DS = Distance

4. Logo / Label

4.1 Appearance of Logo / Label

Class: AA

4.1.1 Reference location



4.2 Inspection Criteria

Printing on label should be clear

4.2.1 logo & label:

not acceptable for illegible defect.

4.2.2 Printing incomplete

a. In logo, not acceptable for discrepancy in color, notch, incomplete painting, sawtooth etc.

b. In label, not acceptable for incomplete painting, maximum 1 notch or sawtooth (0.25mm) is acceptable.

c.

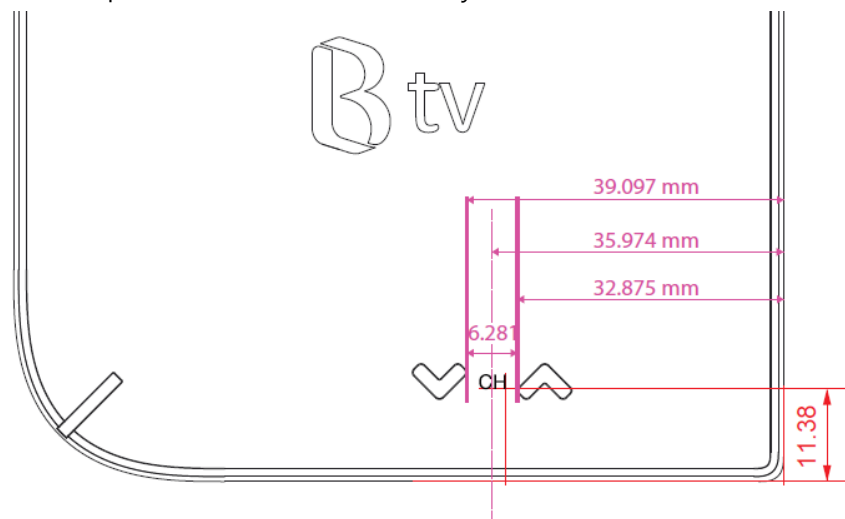
Not allowed: broken, smear, wrong direction, wrong location

5. Text printed on the housing

5.1 CH

5.1.1 Criteria:

Should be printed "CH" between $\wedge \vee$ key. "CH" center located at 35.97mm (+/- 0.1mm)



Please refer to the Design Specifications in details.

5.2 Text

5.2.1 Criteria:

Should be printed as a design.



Please refer to the Design Specifications in details.

6. Housing assembly

6.1 Housing assembly

6.1.1 Visual inspection

All parts must be assembled according to the drawings.

6.1.1.1 Housing

Not allowed conditions.

any dirty, rough surface, bending, broken, damage, Broken, bending, crack, open housing

6.1.1.2 Connectors.

Not allowed conditions

oxidation / dirty on connector, pin bending & damage, foreign bodies inside.

6.2 Gap spec

Define the gap spec between top housing assembly parts.

No	Item	Gap Spec	Remark
1	KEY knob gap	MAX 0.3mm	
2	LED Light pipe gap	MAX 0.2mm	
3	Bottom case assembly gap	MAX 0.2mm	
4	Rear connector assembly gap	MAX 0.5mm	



6.3 Bottom rubber attached gap spec

6.3.1 Target condition:

attachment center line.

6.3.2 Criteria:

Should be attached according to the attachment inside line
over the attachment line is not allowed



6.4 Label attached gap spec

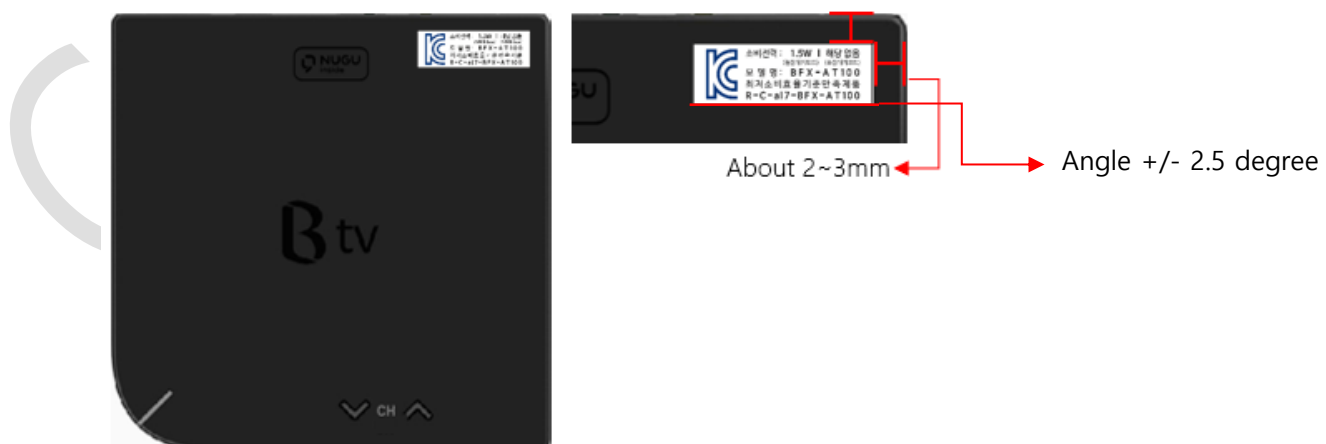
6.4.1 KC label

6.4.1.1 Target condition:

KC label should be attached from the edge 2.5mm

6.4.1.2 Criteria:

Acceptable level $\pm 0.5\text{mm}$, Angle ± 2.5 degree



6.4.2 SET label

This document label design may vary. Please refer to the UADS document in details.

- [Eagle_BFX-AT100] SKB Android TV_UADS

- [Eagle_BFX-UH200] SKB AOSP_UADS

6.4.2.1 Target condition:

STB label should be attached the center

6.4.2.2 Criteria:

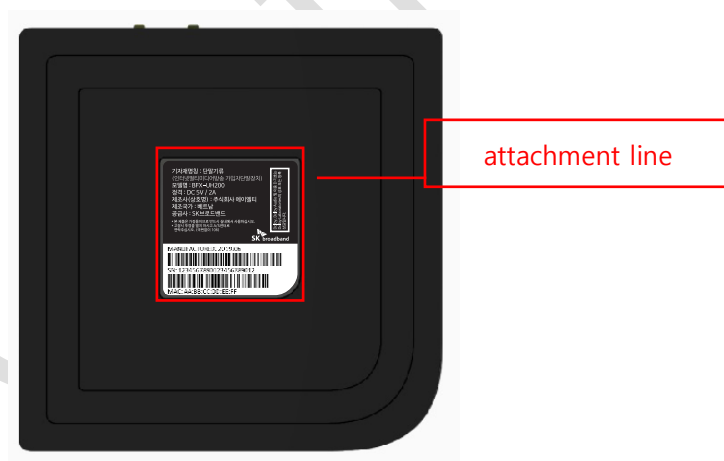
Should be attached according to the attachment inside line

over the attachment line is not allowed

- Reference : BFX-AT100



- Reference : BFX-UH200



6.4.3 UHD4 label

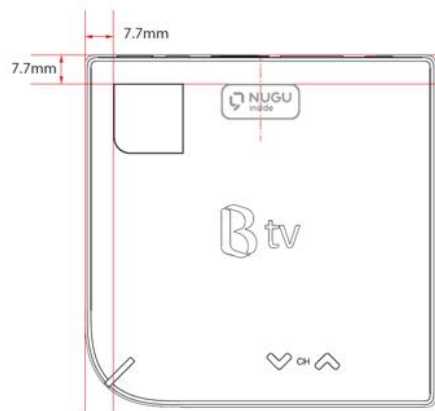
6.4.3.1 Target condition:

UHD4 label should be attached from the edge 7.7mm

6.4.3.2 Criteria:

Acceptable level +/- 0.5mm, Angle +/- 2.5 degree

[Positioning]



[Example Image]



6.5 LED lighting

6.5.1 Criteria:

The LED light should be turn on the only LED pipe.

Not allowed that the LED light should not be visible on the other area(Top plate, each side and rear site)

- Light condition: TBD.

7. Packing

7.1 Gift packing

7.1.1 Criteria:

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

Please refer to the UADS in details - In-Box items

- [Eagle_BFX-AT100] SKB Android TV_UADS
- [Eagle_BFX-UH200] SKB AOSP_UADS

- reference.

a. Adapter



Classification	Description
Spec	5V / 2A
Color	Black
Certification	KC / RoHS

b. RCU



Classification	Description
Spec	IR/Bluetooth type remote control unit
Color	Black
Certification	RoHS

c. HDMI Cable



Classification	Description
Spec	Bandwidth 18Gbps, 1.8M
Color	Black
Certification	RoHS

d. LAN Cable



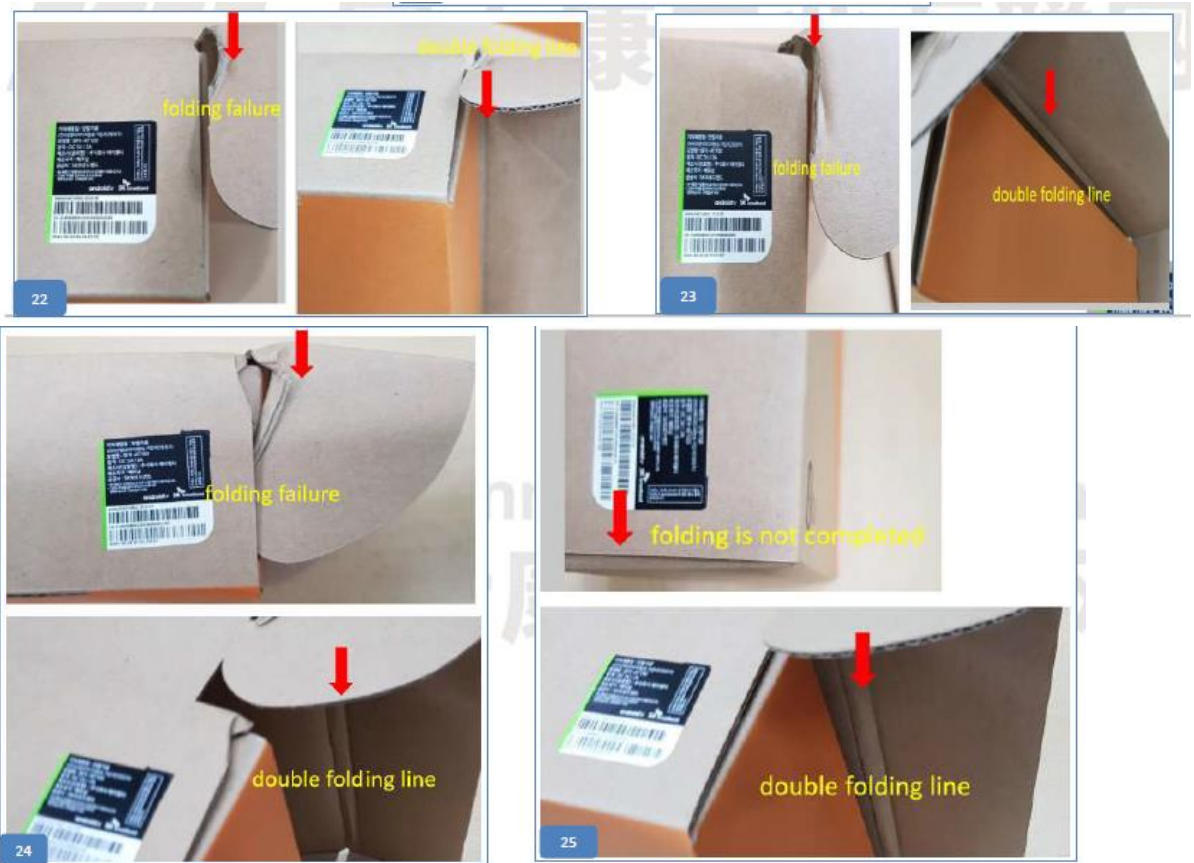
Classification	Description
Spec	Cat. 5e UTP LAN cable, 1.5M
Color	Gray
Certification	RoHS

7.2 Packages

7.2.1 Gift box cosmetic criteria:

Gift box should be fold as designed. And giftbox damage is not allowed.

- Reference: below cases are not allowed.



7.2.2 Carton box Criteria:
Carton box damage is not allowed.

E.O.D