

Visual Inspection Criteria for BFX-UA300

Document revision:0.3

Effectivity

- BFX-UA300 2021. Dec MP~

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Revision History

Revision	Description of Change	Date
0.1	Draft release	2021.04.19
0.2	Update inspection criteria	2021.12.03
0.3	Update inspection criteria	2022.07.15

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1. Purpose of this document

This document is defined specifications of inspection of manufacturing for BFX-UA300

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

To avoid scratch and contamination, all of workers **must wear gloves** during inspection, assembly and test.

2.2 Lighting

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

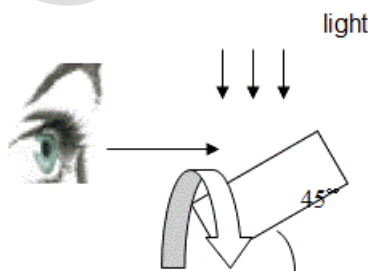
Illumination at the surface of workstations should be at least **1000 lm/m²** [approximately 93 foot candles]. Light sources should be selected to prevent shadows.

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.

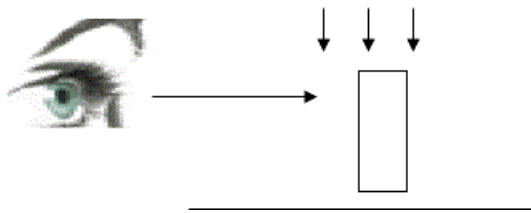
2.3 Inspection angle

Inspection process: Inspectors hold the device **50cm** 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)



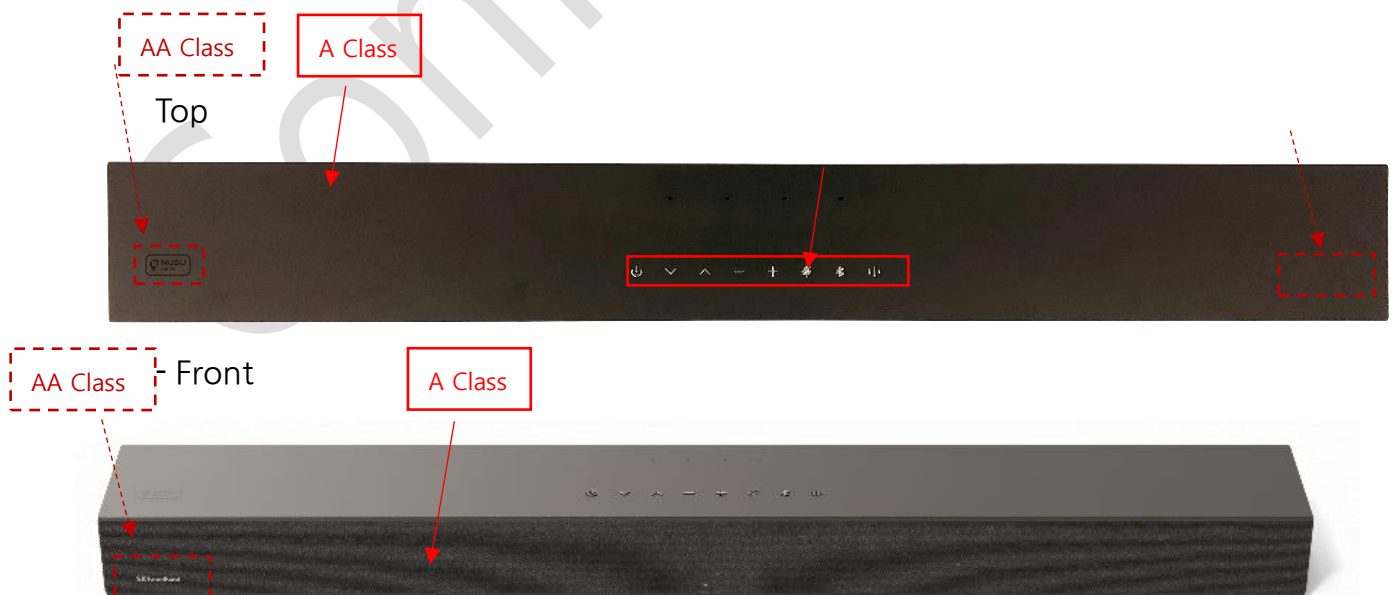
2.4 Inspection distance

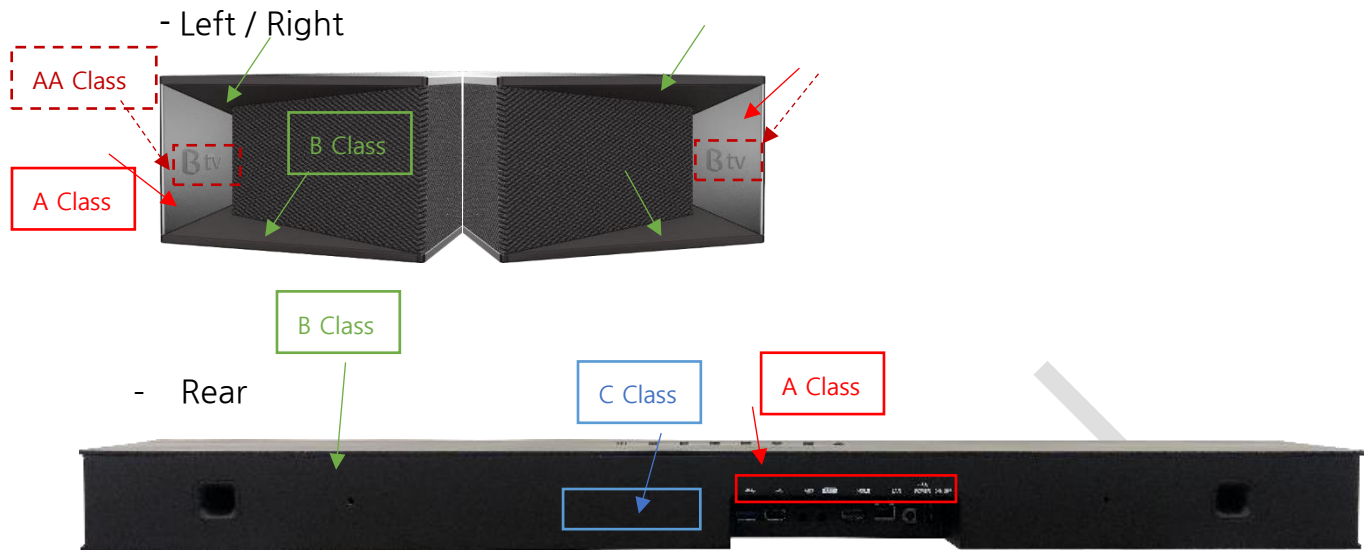
Hold the product away from inspector 50cm

2.5 Class Definition

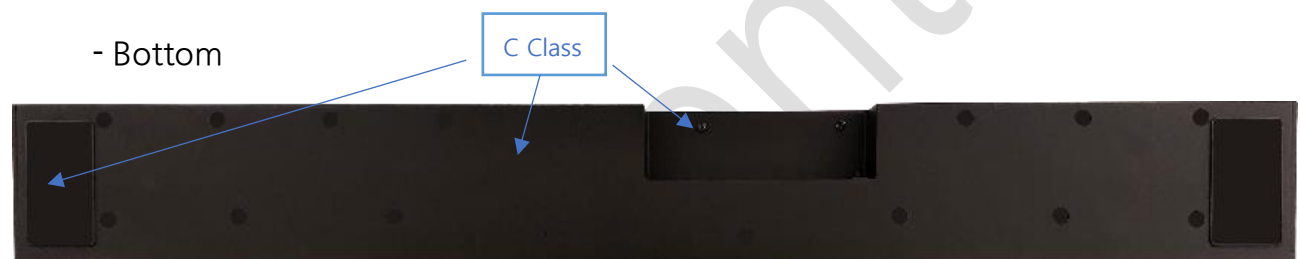
Class	Definition	Part & Location	Detail parts
AA	Customer special requirements.	Items: Logo, Label barcode.	Nugu / B&O logo SKB badge BTV logo (each side) Label barcode
A	Primary surface exposed to direct close-up view in ordinary use.	Items: Printed text, Label, Top and front side of housing, plastic part of key, LED light pipe.	Top Cover, Button Key, Front grill, Each side I/O connector printed text
B	Secondary surface exposed but not in direct view in ordinary use.	Items: Rear and each side of housing, bottom cover, I/O connector.	Bottom Cover – Rear /Bottom side
C	Surface not visible in ordinary use.	Items: inside housing, not visible area after assembly, other accessories.	Foot Rubber, Bottom - inside

* product image can may change, please check UADS latest document.





* Rear image can may change, please check UADS latest document.



* Bottom image can may change, please check UADS latest document.

3. Scratch

3.1 Define,

3.1.1 Class AA

- Nugu / B&O logo
- SKB badge
- BTV logo (each side)
- Label barcode

3.1.2 Class A

- Printed text, Label,
- Top side of housing,
- plastic part of key,
- BTV light plate
- Front grill

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	Low gloss or Matte	Remark
Dot defect	Acceptable conditions* $S \leq 0.3\text{mm}$, $DS = 100\text{mm}$ Allowed quantity 1 Dot defect can not feel.	Printing area is not allowed dot defect
Linear Scratch	Acceptable conditions* Max $w \leq 0.04\text{mm}$, $L \leq 1\text{mm}$ at $DS > 10\text{mm}$ Allowed quantity 1	Printing area is not allowed Linear Scratch

* 5mm around logo considered as logo area

3.2.2 Class A

Defect Sort	Low gloss or Matte	Remark
Dot defect	Acceptable conditions $S \leq 0.3\text{mm}$, $DS = 200\text{mm}$ Allowed quantity 2 Dot defect can not feel.	Printing area is not allowed dot defect
Linear Scratch	Acceptable conditions Max $w \leq 0.1\text{mm}$, $L \leq 1\text{mm}$ at $DS > 200\text{mm}$ Allowed quantity 2	Printing area is not allowed Linear Scratch

3.2.3 Class B

Defect Sort	Low gloss or Matte	
Dot defect	Acceptable conditions $S \leq 0.5\text{mm}$, $DS = 200\text{mm}$ Allowed quantity 2	

	Dot defect can not feel.	
Linear Scratch	Acceptable conditions Max $w \leq 0.15\text{mm}$, $L \leq 1\text{mm}$ at $DS > 200\text{mm}$ Allowed quantity 2	

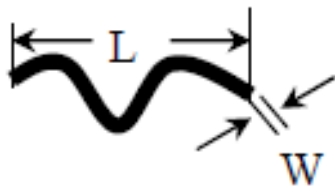
3.2.4 Class C

Defect Sort	Low gloss or Matte	
Dot defect	Acceptable conditions $S \leq 0.7\text{mm}$, $DS = 100\text{mm}$ Allowed quantity 2 Dot defect can not feel.	
Linear Scratch	Acceptable conditions Max $w \leq 0.15\text{mm}$, $L \leq 1\text{mm}$ at $DS > 100\text{mm}$ Allowed quantity 2	

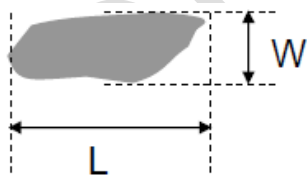
3.2.5 Remark

: defect decided by the appearance determination film

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



* Right side sound brand logo will be updated.



* Rear image can may change, please check UADS latest document.



4.2 Inspection Criteria

Logo and 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.

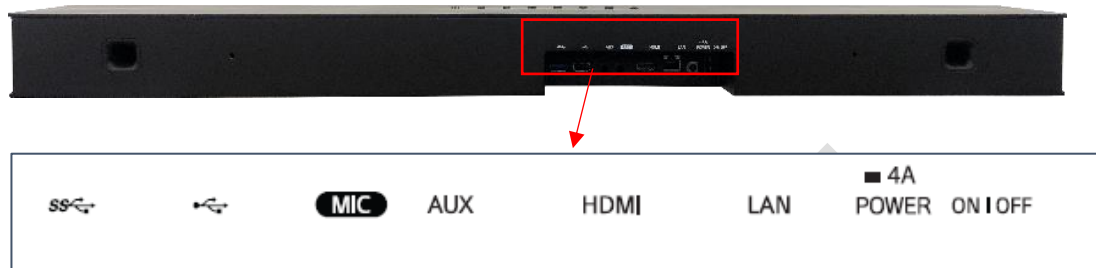
c. Not allowed: broken, smear, wrong direction, wrong location

5. Text printed on the housing

5.1 Text

5.1.1 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, bending, crack, open housing
missing screw

6.1.1.2 Connectors.

Not allowed conditions

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

6.1.1.3 Assembly Shaking test

Not allowed abnormal sound

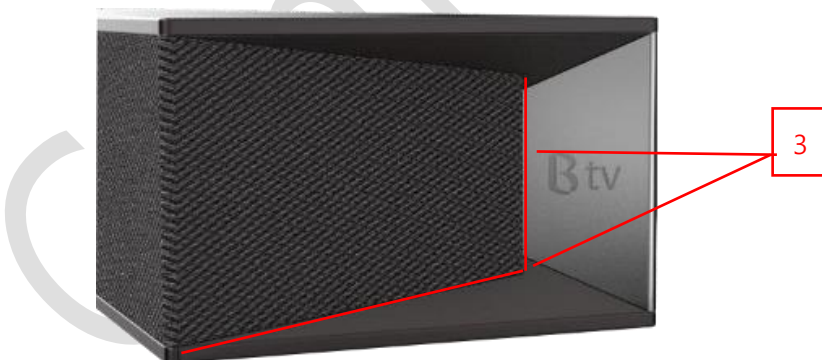
i.g : Abnormal sound inside the housing – Screw, cable, etc..

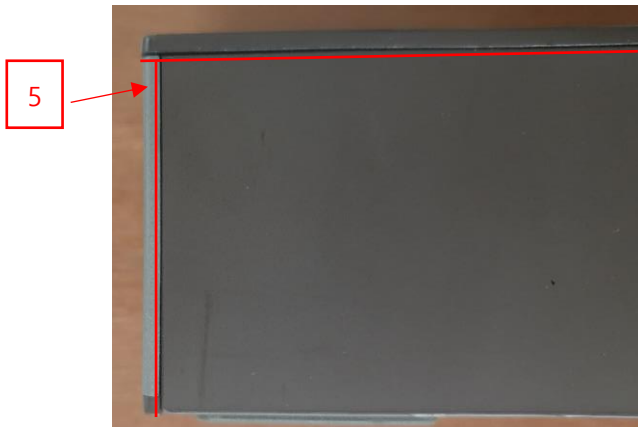
6.2 Assembly Gap spec

Define the gap spec between top housing assembly parts.

No	Item	Gap Spec	Remark
1	KEY knob gap	MAX 0.4mm	
2	Grill and Housing gap	MAX 1.4mm	

3	Grill and side LED gap	MAX 0.5mm	
4	Rear connector assembly gap	MAX 0.65mm	
5	Bottom rear side and top side gap	MAX 0.5mm	
6	Bottom and deco side assembly gap	MAX 0.5mm	





* Rear image can may change, please check UADS latest document.

6.2.1 Power / sound effect button gap.

Not allowed conditions.

button popup area touched with top case button hole

A. NG case image



B. NG case video : Button noise when push the button

https://drive.google.com/file/d/1TWRBTxVBto9_cLfl6iaGS3YyzctCX-EF/view?usp=sharing

6.3 Bottom rubber attached gap spec

6.3.1 Foot rubber Target condition:

Foot rubber should be attached according to the attachment inside line
Customer logo should be outward direction.

6.3.2 Criteria:

: Over the attachment line is not allowed

attachment line



* bottom image can may change, please check UADS latest document.

: Inward direction is not allowed.



6.3.3 Screw cover Target condition:

Insert the center line.

6.3.4 Criteria:

Should be inserted according to the screw hole

Screw cover missing is not allowed



* Bottom image can may change, please check UADS latest document.

6.4 Label attached gap spec

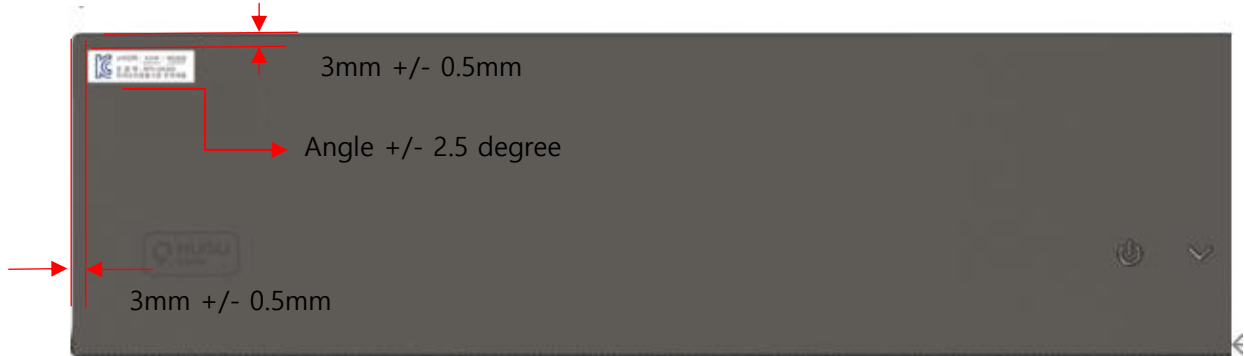
6.4.1 KC label

6.4.1.1 Target condition:

KC label should be attached from the edge 3 mm

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-UA300] SKB Android TV_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-UA300



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)

- Front side Light condition
- Each side light condition

6.6 Paint spray

Finished paint must match below

Top Case	Bottom case	Assembly
China painted	China painted	OK
Vietnam Painted	Vietnam Painted	OK
China painted	Vietnam Painted	NG
Vietnam Painted	China painted	NG

- Note.

Side Deco Left/Right Ass'y painted don't care.

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-UA300] SKB Android TV_UADS

- reference. // 사진 변경 아답터 RCU

1.1. Adapter



Classifications	Specifications
Spec.	24V 4A
Color	Black

1.2. HDMI Cable



Classifications	Specifications
Spec.	Bandwidth 18Gbps, 1.8M
Color	Black

1.3. LAN Cable



Classifications	Specifications
Spec.	Cat. 5e UTP LAN cable, 1.5M
Color	Black

1.4. RCU



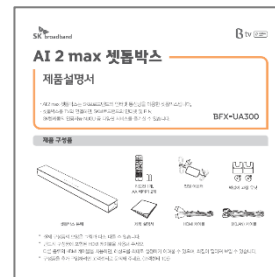
Classifications	Specifications
Spec.	IR/BT type RCU
Color	Black

1.5. Wall Mounting Units



Classifications	Specifications
Color	Black

1.7. Quick Start Guide



Classifications	Specifications
Size / Color	T.B.D. / White
Material	Vellum paper 100g
Folding	Z-Folding

7.2 Packages

7.2.1 Gift box cosmetic criteria:

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

7.2.2 Carton box Criteria:

Carton box damage is not allowed.

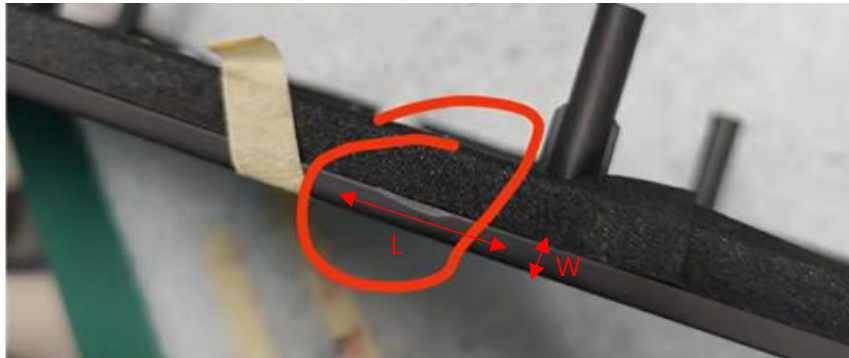
8. Reference

Reference image for pass/fail judgment

8.1 Housing

8.1.1 Top housing

8.1.1.1 Rear side bavia (burr)



Pass conditions: Rear side only,

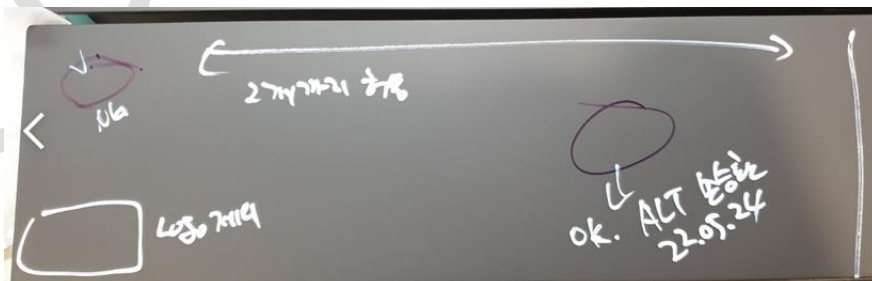
NG conditions: Front side is not allowed.

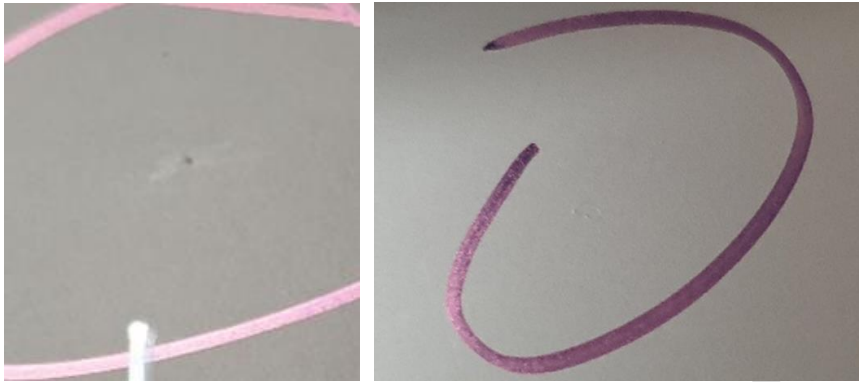
- Max L = 40mm
- Max W = 1mm
- Max quantity = 2

8.1.1.2 Vietnam painted Dot defect

Inspection distance : Hold the product away from inspector 50cm

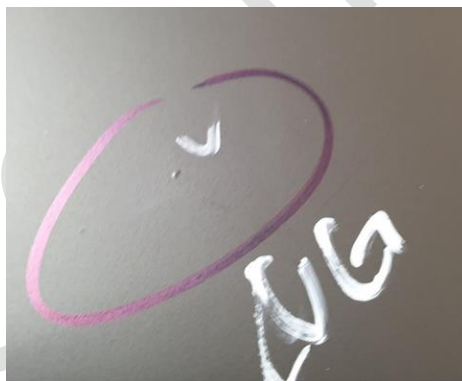
Pass conditions: Each side (Left/Right) allowed max 2 point same as picture expect Logo printing area.





NG conditions:

Center area (Button, Mic) is not allowed.



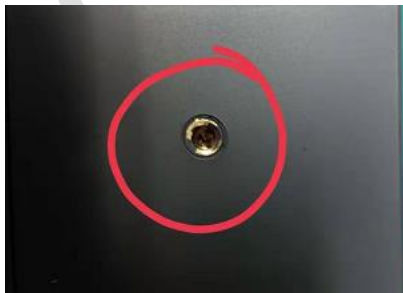
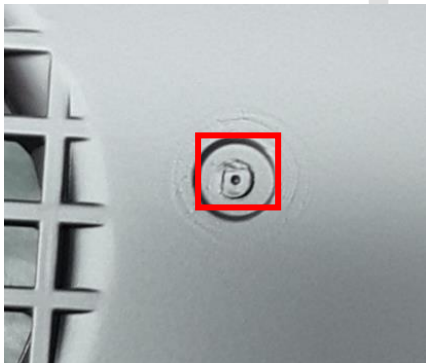
8.1.2 Bottom housing

8.1.2.1 Pass

8.1.2.1.1 OK



8.1.2.1.2 Temporary OK. (until ~2022.08)



8.1.2.2 NG

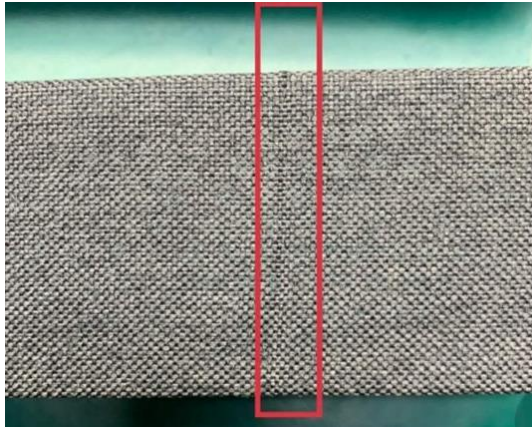


8.1.3 Front Grill

8.1.3.1 Pass



8.1.3.2 NG



8.1.4 Deco parts

8.1.4.1 Pass

8.1.4.1.1 OK



8.1.4.1.2 Temporary OK. (until ~2022.02)



8.1.4.2 NG



8.2 Speaker units

8.2.1 Woofer speaker

8.2.1.1 Pass



8.2.1.2 NG



8.2.2 Full range

8.2.2.1 Pass



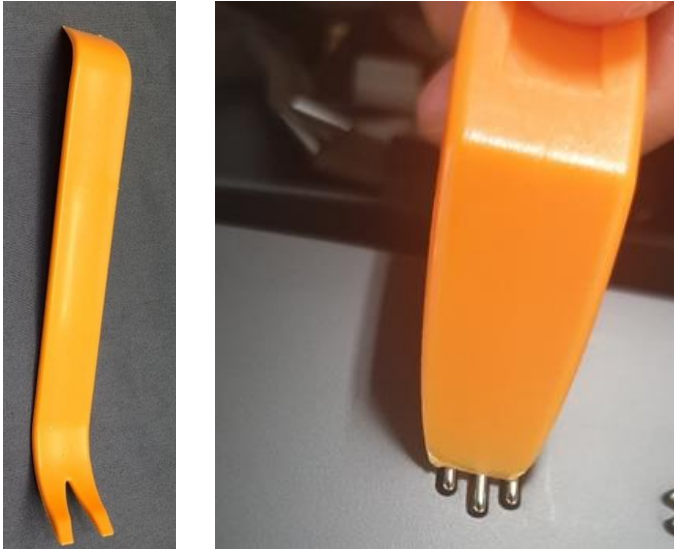
8.2.2.2 NG

TBD

8.3 Tact switch (Button feeling) test method (택감 검사 기준)

8.3.1 Check method

Using the plastic spatula, Push the button



8.3.2 Criteria

8.3.2.1 Basically, electrical function must be OK.

8.3.2.2 Check "Click" sound.

8.3.2.2.1 OK

: Normally click sound

: reference

<https://drive.google.com/file/d/1DS9QzFRgL3Ukw-NlgFFFf44JkH4kP2-N/view?usp=sharing>

8.3.2.2.2 NG

: Abnormal click sound,

: No click sound

8.4 TBD

8.4.1 TBD

E.O.D