

BFX-UA300 (96.1517T00) RMA Power Button Feeling NG Report

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Approved by: Michael

Date: Aug 18th 2022

D1. Establish the Team

Team Leader

Team Member

Foxconn

- MFG Director: David Yin
- QA Manager : CB Lin, Toney

PE: Michael, Thuc
ME: Cheng Lun, Wen Thai
PM: Ben Zheng, An Tran
PD: Ruan Wen Yong
QA: Ken, Rachel
TE: Mark Wu, Allan Pham
IE: Hai Ly, Heng Ruan

D2. Description

1. Issue Description

- On 30/06/2022, ALT customer complaint 1pcs has Power button feeling NG.
- **Failure status:** Unusual feeling when pressing the Power button.

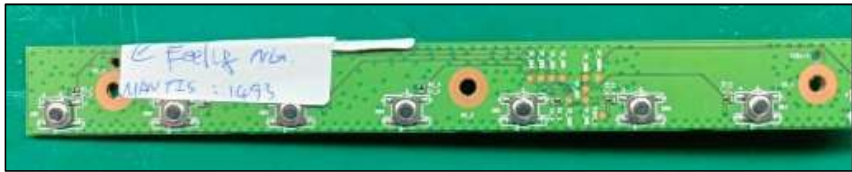
➤ **Failure information:**

NO#	FXC_SN	Cus_SN	MAC	Symptom
1	YWR0J97	2149695001202201006506	A8934AFEBBC6	Power button feeling NG

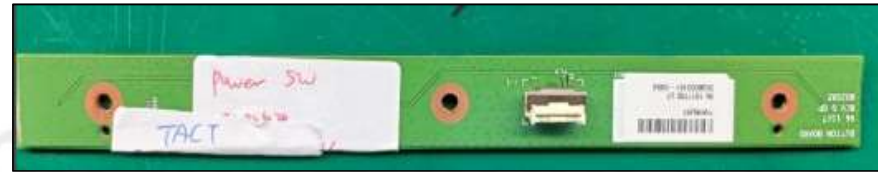
D3. Containment

1. Visual Inspection PCBA both of Button NG sample.

- Visual Inspection → Both top & bot side of defect unit are normal.

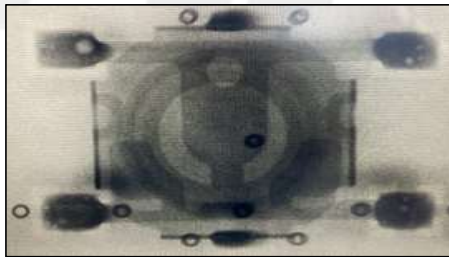


Top side



Bot side

- Take X-ray SW1 (Power button)→ Normal



X-ray SW1

D3. Containment

2. Check FATP data record

- **Check FATP data record:** NG product tested pass at FATP

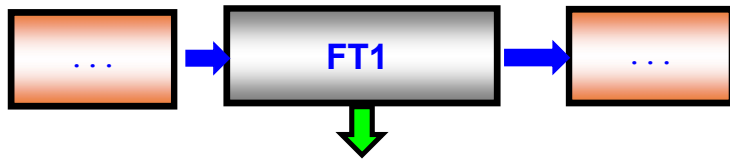
SERIAL_NUMBER	MO_NUMBER	GROUP_NAME	IN_STATION_TIME	WIP_GROUP
A8934AFEBBC6	2639002525	ASSY	22/04/12 8:57:13 AM	BT
A8934AFEBBC6	2639002525	BT	22/04/12 8:59:56 AM	PT
A8934AFEBBC6	2639002525	PT	22/04/12 9:02:05 AM	UP
A8934AFEBBC6	2639002525	UP	22/04/12 9:03:36 AM	ASSY2
A8934AFEBBC6	2639002525	ASSY2	22/04/12 9:59:22 PM	ASSY3
A8934AFEBBC6	2639002525	ASSY3	22/04/12 10:04:22 PM	ASSY4
A8934AFEBBC6	2639002525	ASSY4	22/04/12 10:06:32 PM	FT1
A8934AFEBBC6	2639002525	FT1	22/04/12 10:38:15 PM	FT2
A8934AFEBBC6	2639002525	FT2	22/04/12 10:47:05 PM	FT3
A8934AFEBBC6	2639002525	FT3	22/04/12 10:49:41 PM	RC
A8934AFEBBC6	2639002525	RC	22/04/12 10:52:10 PM	RC1
A8934AFEBBC6	2639002525	RC1	22/04/12 11:03:37 PM	VI
A8934AFEBBC6	2639002525	VI	22/04/12 11:05:39 PM	RC2
A8934AFEBBC6	2639002525	RC2	22/04/12 11:07:18 PM	VI1
A8934AFEBBC6	2639002525	VI1	22/04/12 11:11:47 PM	PACK_BOX
A8934AFEBBC6	2639002525	PACK_BOX	22/04/12 11:12:44 PM	CHECK_WEIGHT
A8934AFEBBC6	2639002525	CHECK_WEIGHT	22/04/12 11:14:58 PM	PACK_CTN

- **Summary:** NG product didn't have abnormal on FATP.

D4. Root Cause

1. Check log test at FATP

➤ Check log test is normal



- Connect to DUT
- Check MFG FW
- Check AMP version
- Check IR Remote UP Key
- Check USB2.0 R/W
- Check AUX, MIX audio
- Check LED (white off)
- Check Front Panel buttons
- Set 4KP60 Resolution
- Check 4K TV
- Play 4KP60 Video
- Check HDMI 4KP60 Resolution/FPS

Test plan FT1 station

```

Buttons Test
Button 1 Test
22:38:29 Send: adb shell fac check_button BUTTON_0
22:38:32 adb shell fac check_button BUTTON_0
22:38:32 Start GPIO Button
22:38:32 ==> press BUTTON_0 key in 10 seconds...
22:38:32 0001 0074 00000001
22:38:32 GOT BUTTON_0
22:38:32 SUCCESS
22:38:32 D:\FATP\IOTT>
  
```

Power Button Tested Pass First Time

```

Buttons Test
Button 1 Test
22:38:41 Send: adb shell fac check_button BUTTON_0
22:38:43 adb shell fac check_button BUTTON_0
22:38:43 Start GPIO Button
22:38:43 ==> press BUTTON_0 key in 10 seconds...|
22:38:43 0001 0074 00000001
22:38:43 GOT BUTTON_0
22:38:43 SUCCESS
22:38:43 D:\FATP\IOTT>
  
```

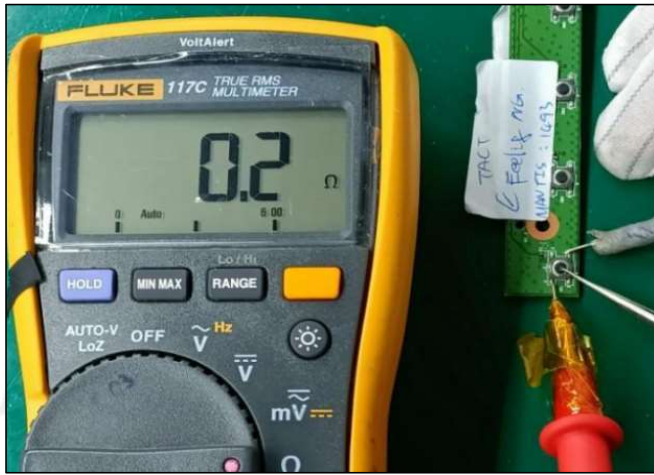
Power Button Tested Pass Second Time

➤ Summary: Button function is tested pass twice at FT1 station.

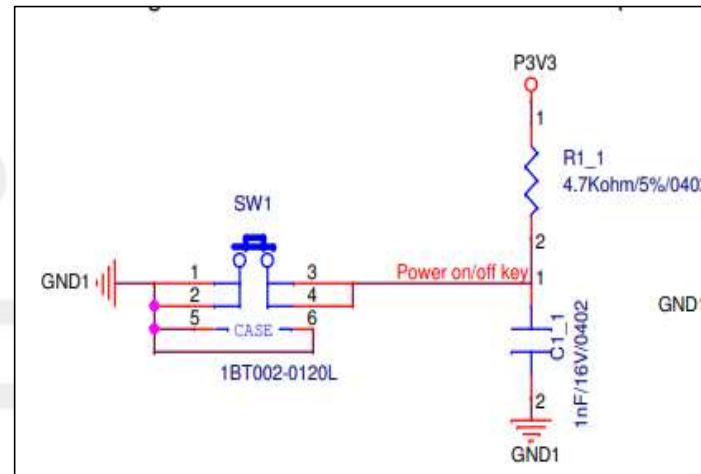
D4. Root Cause

2. Check Connection of SW1 Button

- Check the connection of button by pressing the button and measuring two pins (pin 1 & pin 4) with multimeter
- ➔ Multimeter display 0.2Ω



Multimeter display connection is OK



Circuit diagram of SW1 block

Summary:

- Case 1: Press SW1 key button ➔ Pin 1 & pin 4 are connected to each other
- Case 2: No press SW1 button ➔ Pin 1 & pin4 is open

D4. Root Cause

3. Re-test Button Function At FT1 Station.

➤ Reassemble Button main and retest button function 5 times FT1 station ➔ Button function Pass normally.

```
Buttons Test
Button 1 Test
21:13:57 Send: adb shell fac check_button BUTTON_0
21:13:59 D:\FATPIOTT>adb shell fac check_button BUTTON_0
21:13:59 Start GPIO Button
21:13:59 ==> press BUTTON_0 key in 10 seconds...
21:13:59 0001 0074 00000001
21:13:59 GOT BUTTON_0
21:13:59 SUCCESS
21:13:59 D:\FATPIOTT>
```

Button function Pass at FT1

Test Time Button Function Test	1	2	3	4	5
	Pass	Pass	Pass	Pass	Pass

➤ **Summary:** Retest Button function 5 times at FT1 station ➔ Result: Pass 5/5 times

D4. Root Cause

4. Re-test Button Function by pressing.

➤ **Retest Power Button Function by pressing button 10 times** (Display shows on/off)

Test Time	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10
Button Function Test										
Result	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

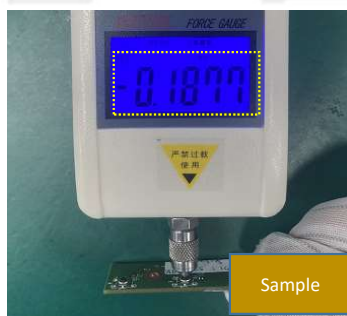
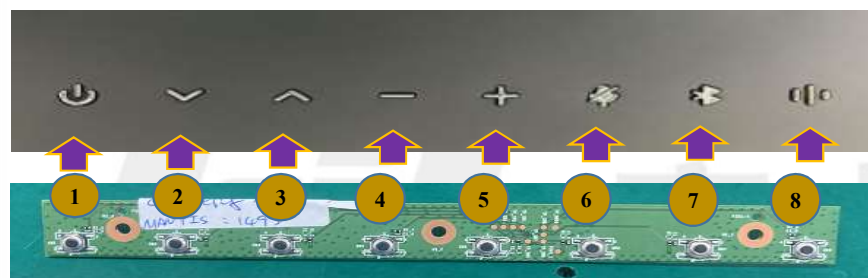
➤ **Summary:** Retest Power Button Function by pressing button 10 times ➔ Result: Pass 10/10 times

5. Measure Pressure button.

1. Fii confirm with Vendor and check push force of the switch define was:

160 +/- 50 gf (Lower spec : 110 g.f/ /Upper spec :210 g.f)

1. Fii uses a force gauge to check the status of the actual switches on the PCBA of customer feedback. Measurement results as below: (Unit:Kgf).



Location Sample	1	2	3	4	5	6	7	8
Customer PCBA	0.1165	0.1870	0.1693	0.1845	0.1797	0.1705	0.1834	0.1877
Factory 1#	0.1635	0.1706	0.1844	0.1905	0.1673	0.1877	0.1688	0.1745
Factory 2#	0.1655	0.1745	0.1733	0.1715	0.1875	0.1902	0.1808	0.1685
Factory 3#	0.1682	0.1733	0.1845	0.1854	0.1705	0.1692	0.1917	0.1672
Factory 4#	0.1873	0.1752	0.1862	0.1783	0.1646	0.1872	0.1935	0.1841

❖ Remark :

1.Power button (Position 1) force value near lower limit , but have not over the limit of control other positions are within defined specification.

2.Check that 4 PCBA with switch component in the factory are in standard specifications.

3.Feedback results with SQE & PQE to confirm and continue to analyze further with the material incoming and FATP process.

D4. Root Cause

6. Conclusion Root cause.

- Retest NG sample on FATP (Focus on FT1 station to check button function) ➔ Pass normally
- This issue (Unusual feeling when pressing the Power button) doesn't affect to it's function.
- Fii uses a force gauge to check the status of the actual switches on the PCBA of customer feedback. Measurement results are in standard specifications. (160 +/- 50 gf)
- ALT feedback the Tact switch push force spec change from 160 +/- 50 gf to 160 +/- 20 gf . Fii feedback vendor to confirm for change notice it. Due date: 19-Aug-2022.