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STANDARD FIELD SERVICE BULLETIN

FSB Number	CHRAEFSB2017-39
Author	Tony Bryan
Date	09/26/2017
Subject	Moto G4, Moto G4 Plus - No Speaker Audio (PCBA Open Trace)
Model Affected	XT164x, XT162x
Level Of Repairs	Level 3

Problem:

Motorola is aware of a potential field return issue on the Moto G4 / Moto G4 Plus product related to Speaker Audio. Service Centers reported receiving returns for “No Speaker Audio” and “No Headset Audio” where the symptom follows the Main PCBA. Analysis of the Main PCBA found trace damage located at screw boss location on the PCB. See Figure 1.0 below. The root cause is mechanical overstress to PCBA at screw boss as board flexes after multiple drop impacts by users in the field.

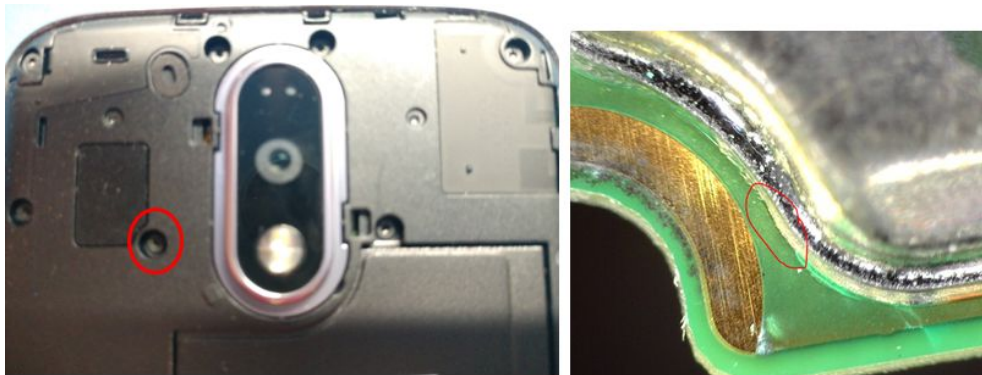
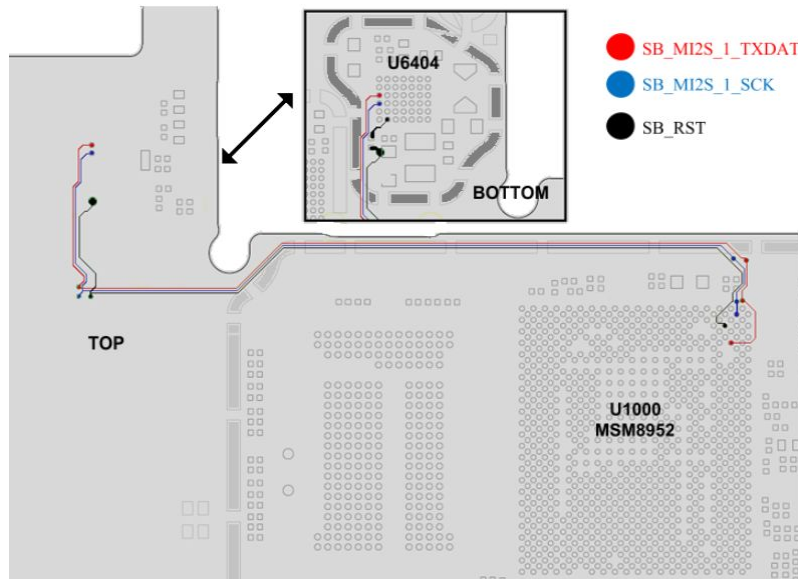
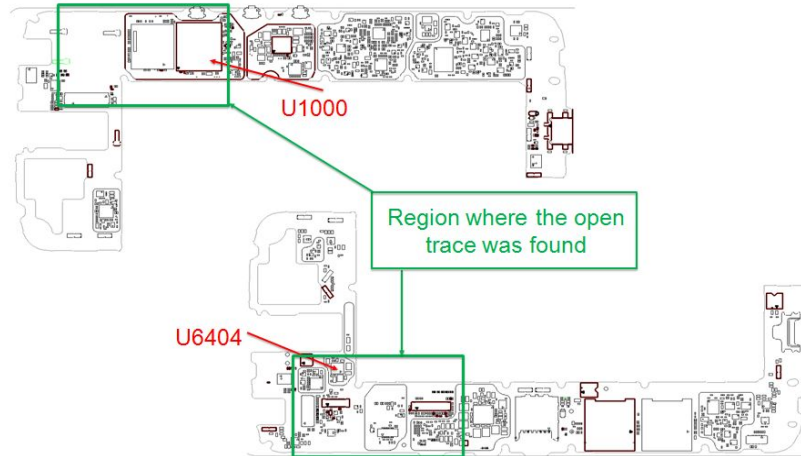


Figure 1.0 - Screw Boss & PCBA Stress Location

The PCBA trace damage in this location breaks the SB_MI2S (Clk/Data/Reset) communication lines between U1000 MSM IC and U6404 Audio Smart Boost IC, resulting in no audio output symptom observed. See detailed views in Figure 2.0 and Figure 3.0 below.



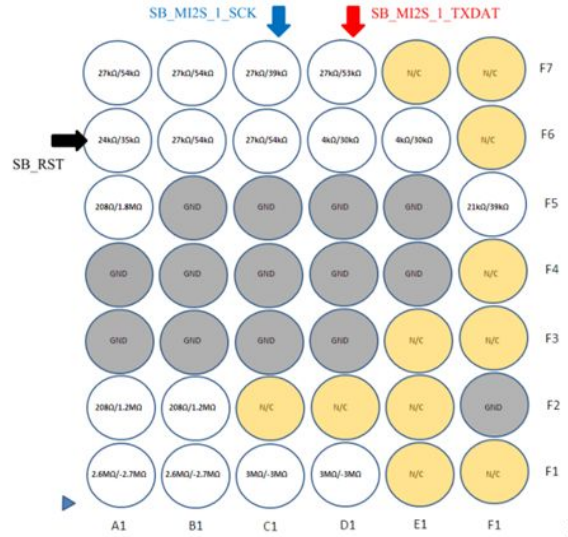
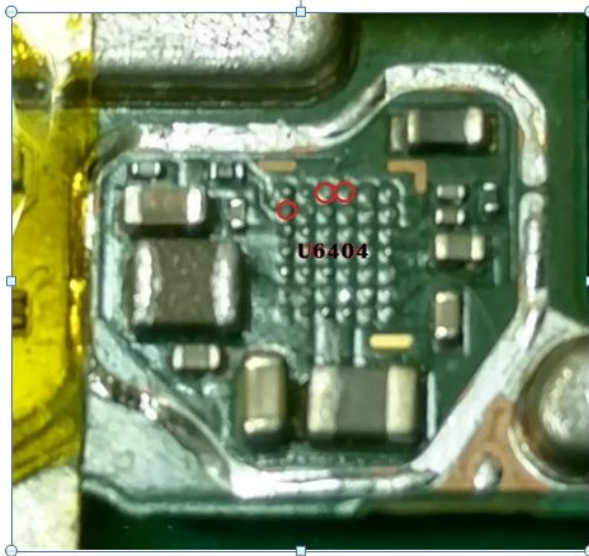


Figure 2.0 - Board Layout Views

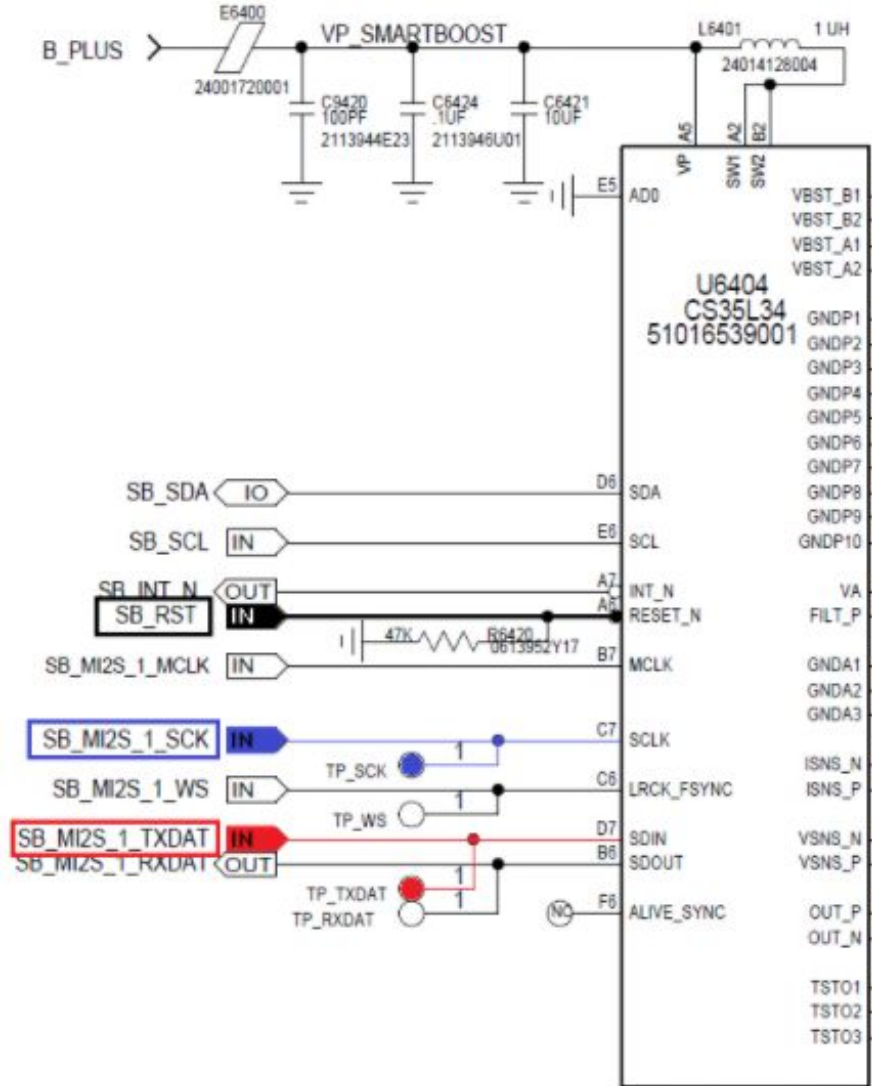


Figure 3.0 - Schematic View U6404

Solution:

Global Repair Teams should use the information in this bulletin to help confirm customer returns with damaged PCB's.

Field Service Action:

When servicing customer returns on the Moto G4 / Moto G4 Plus products, with customer complaint related to Speaker Audio, then:

1. Confirm issue by testing Speaker Audio functionality, using approved test procedures.
Important Note: Some slight twisting pressure applied to the housing may be required to help reproduce the No Speaker Audio symptom , if confirmed:
2. Reference previously released bulletin [CHRAEFSB2016-27](#) and perform the standard troubleshooting "ABBA Swap" method to confirm No Audio symptom follows Main PCBA and not the Speaker or Rear Housing, if confirmed:
3. Remove metal shield SH5300 to access U6404 Smart Boost IC .
4. Use DMM to confirm Smart Boost Reset (SB_RST) line measured at R6420 reads 0VDC (Good boards will measure 1.8VDC).
5. Remove U6404 Smart Boost IC from the PCBA
6. Finally, use DMM in to measure DC Impedance on SB_MI2S (Clk/Data/Reset) pins to ground. Damaged PCBA will measure as OPEN. Reference Figure 4.0 below.
Important Note: Apply some slight twisting pressure to the board during this step to help reproduce open trace condition.

Verify open trace by measuring impedance between pin and ground.

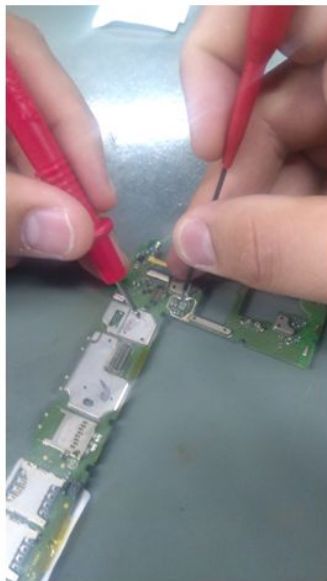


Figure 4.0 - DC Impedance Measurement

Service Inventory:

No Action Required.

Call Center Action:

When responding to users reporting issues with Speaker Audio on their Moto G4 / Moto G4 Plus device, then:

1. Follow normal troubleshooting steps to attempt to resolve the user's issue.
2. If normal troubleshooting steps cannot resolve the issue, instruct the user to return the device to Motorola Service for repair, per this bulletin.

Service Entry Code:

Global M-Claims Codes:

Customer Complaint Code: C0002 - Ringer/Speakerphone Issues

Problem Found Code: P0003 Loudspeaker

REF Designator Code: RD022 - PCB

Repair Code: R0019 - REPL PCB CSB

Note:

Only apply the designated Service Entry Codes, listed in this bulletin, if the unit fails a test or has a customer complaint that matches the issue described in the bulletin

If the unit fails a test or has a customer complaint that does not match the issue described in the bulletin, the Service Entry Codes used should accurately reflect the true problem found

If the unit passes all tests and inspections and does not have a related customer complaint, the Service Entry Code used should be NFF