



MOTOROLA

Customer Support Russia and CIS Region

Service Bulletin RU_SB023

Page:1

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Date: 2004-02-03
Subject: GSM Triplets - SEC TMR Display Module
Rating: Level 3 Authorized

Products: V303, V400, V500, V525

Problem: Service is aware of an issue identified during the 1st 200 NPI Analysis on V400 and V500/525. Some units, returned with a customer complaint of "Corrupt Main Display", were found to power up with a lower portion of the main display corrupt and the upper portion of the main display functional. Analysis revealed "Gate-Block" failure, a short between the ITO Layer and Data Metal Layer of the display glass, to be the cause. The short can occur as a result of a foreign material, corrosion, or ESD Burn internal to the display glass occurring at the display manufacture. Figure 1.0 below shows examples of displays with the "Gate-Block" failure.



Figure 1.0 – SEC TMR Display with Gate-Block Failure

Solution: The original design of the Samsung TMR Display Module (7289238N02) had a high susceptibility to Gate Block failure due the overlapping of the ITO and Data Metal layers. Samsung Changed the design of the TMR Display module, as of November 1st, 2003, to a new mask to separate the ITO and Data Metal layers of the display and strengthen the over-all tolerance against "Gate Block" failure. Samsung TMR Display Modules (7289238N02), built on Line 1 prior to November 1st, 2003, are highly susceptible to this defect. See Figure 2.0 below. Samsung has managed 2 FAB lines and 2 types of 1.88 inch product have been manufactured. In order to identify the FAB code of each product, you have to inspect the red square below picture shown with a micro-scope after detaching the black tape on the driver IC.

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❖ Sample picture of panel.

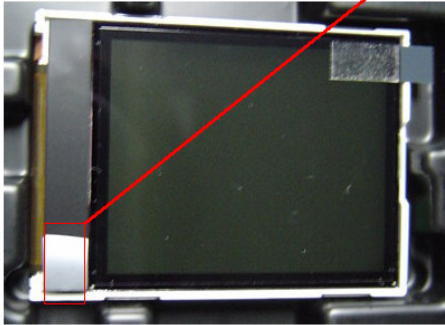


Figure 2.0 – Date/Lot Code Identification

C	M	I	1	2	3	1	2	1	2
①	②	③	④		⑤		⑥		

① FAB Code

Line #1	TF	A
	TMR	C
Line #2	TMR	B

② Model Code ('M' means 1.88 inch product)

③ Manufacturing month (A, B, C, D.....)

④ Mother glass lot No

⑤ Glass own No

⑥ Each panel No

***Affected Date Code Range: CMH thru CMJ**

Approximate Exposure:

1.13 million Samsung TMR Display Modules (7289238N02) are affected
 Maximum Field Failure Rate of 4800 PPM (5.4K Units)
 Predicted Field Failure Rate of 1500 PPM (1.7K Units)

Action:

Customer Returns:

When servicing affected GSM Triplets customer returns with a customer complaint of "Corrupt Main Display", then:

1. Power up the phone and verify the following symptoms: Unit Powers up with a lower portion of the main display corrupt and the upper portion of the main display functional.

a. If the unit does not display these symptoms, then proceed with normal troubleshooting techniques as per the customer complaint.

2. Disassemble the unit and verify that the display flex connector from the flip assembly is properly seated onto the PCB board connector J1300.

a. If the display flex connector is found to have a problem then perform the necessary steps to repair the unit. Reference released RU_SB013 for information of this failure mode.

3. Disassemble the Flip Assembly and verify that the failure is caused by the display module itself by replacing the suspect module with a known good module.

a. If the unit displays the original failure symptoms with the known good display module, then troubleshoot the display flex assembly (0188928N01) for defects.

4. Finally, replace the defective display module, reassemble the unit, and retest to confirm the repair.

Service Inventory:

All affected date codes of the 7289238N02 Samsung TMR Display Modules should be removed from inventory and quarantined. See Figure 2.0 above for

Date Code Identification. There is a possible opportunity to return affected



MOTOROLA

Customer Support Russia and CIS Region

Service Bulletin RU_SB023

Page:3

material to the supplier for cost recovery. An updated version of this FSB will be released once the process for the disposition of this material has been identified.

Classification: Standard Warranty Repair. Use following codes.

Customer Complaint Code:
DIM03 - Display Main- Corrupt / error display

Problem Found Code:
DIM03 - Display Main- Corrupt

Repair Code:
RPT01 – Replace Part – Defective

REF Designator Code:
DIS - Display

Original FB No: LVCCFSB2004-7

Parts: 7289238N02

Comments:

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