

FIELD SERVICE BULLETIN

FSB Number: LVCCFSB2006-319
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Date: July 27, 2006
Total No. of Pages: 4
Subject: RFMD_SYNTH IC – Open Circuit (cracked via)
Model Affected: V3i, V3-05, U6, L7, A1200, E2
Level of Repair: 3

Problem

Service is aware of an issue, identified in the NPI Analysis of several GSM products using the RFMD_SYNTH IC (P/N(s): 5188450M38 and 5188169Y01). Some units, returned with customer complaints of “Voice Call-No Service”, “Voice Call – Can’t Make/Receive Calls”, “No Turn On”, and “Invalid Battery”, were found to be caused by inoperative RFMD_SYNTH IC. The failure identified was an open circuit resulting from via cracks within the substrate of the IC. This failure mode can be intermittent and sensitive to temperature.

The root cause was determined to be a process control issue at the second source substrate supplier, UMTC, that resulted in a via that is more susceptible to cracking. RFMD was utilizing two suppliers to produce the IC substrate. Supplier UMTC was introduced into production in February 2006. RFMD_SYNTH IC’s built with substrates produced from first source supplier, Subtron, are not affected by this issue.

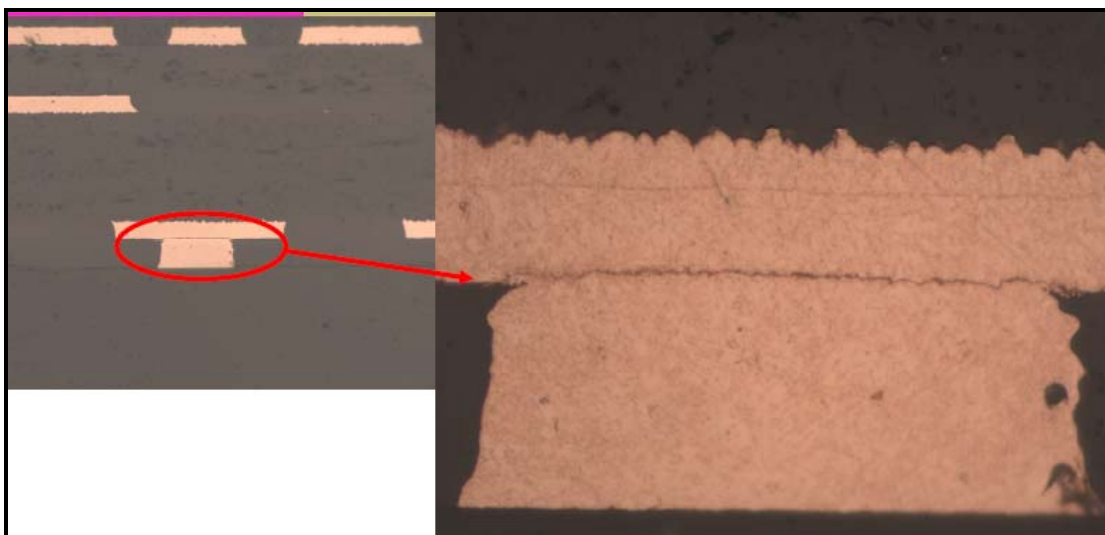


Fig. 1.0 – Cracked Via from failed component



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Solution

Factory and Supplier Inventories have been 100% screened for affected parts with substrates produced by UMTC. 6/30/2006

Supplier RFMD has stopped all production of substrates by UMTC and is currently shipping only parts built with substrates produced by Subtron as of 7/12/2006.



Date Code Shown: 0551 = Week 51, Year 2005

Affected Date Codes: 0603 thru 0626

CA Date Code: 0627 = Week 18, Year 2006

Affected Date Codes: 0603 thru 0626

Affected Products using P/N 5188450M38: GSM V3i, V3-05, A1200, and E2

Affected Products using P/N 5188169Y01: GSM U6 and L7

Field Service Action

Customer Returns:

When servicing any affected model customer returns, with a Month of Ship (MOS) from February to August 2006, follow the procedures detailed below for each Customer Complaint or Problem Found type.

Note: Failures Modes related to this issue can degrade in cold temperature and may recover with heat. Failure Mode can also degrade or recover when pressure is applied to the PCBA in the area around the RFMD_SYNTH IC.

“Voice Call – No Service” and “Voice Call – Can’t Make/Receive Calls”

1. Validate the customer complaint that the phone will not camp or fails to establish a call during RF Testing.
2. Dis-assemble the unit and confirm that the failure mode follows the PCBA.
 - a. If the failure mode does not follow the PCBA, then proceed with normal troubleshooting techniques to identify the problem, per the customer complaint.



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3. Verify unit exhibits Low/No RF Output Power when measured at the RF Connector.
4. Verify the date code and replace the RFMD_SYNTH IC with date code after 0626.
5. Perform required re-phasing and completely retest the unit to confirm successful repair of the failure.
 - a. If the unit still exhibits the failure mode, then proceed with normal troubleshooting techniques to identify the problem, per the customer complaint.

“No Turn On”

1. Validate the customer complaint that the phone will not power-up or displays a slow or noisy power-up condition.
2. Dis-assemble the unit and confirm that the failure mode follows the PCBA.
 - a. If the failure mode does not follow the PCBA, then proceed with normal troubleshooting techniques to identify the problem, per the customer complaint.
3. Verify unit exhibits a distorted or missing 26 MHz Clock signal.
4. Verify the date code and replace the RFMD_SYNTH IC with date code after 0626.
5. Perform required re-phasing and completely retest the unit to confirm successful repair of the failure.
 - b. If the unit still exhibits the failure mode, then proceed with normal troubleshooting techniques to identify the problem, per the customer complaint.

“Invalid Battery”

1. Validate the customer complaint that the phone powers-up and shows “Invalid Battery” error message on main display.
2. Dis-assemble the unit and confirm that the failure mode follows the PCBA.
 - a. If the failure mode does not follow the PCBA, then proceed with normal troubleshooting techniques to identify the problem, per the customer complaint.
3. Verify unit exhibits a distorted or missing 26 MHz Clock signal.
4. Verify the date code and replace the RFMD_SYNTH IC with date code after 0626.
5. Perform required re-phasing and completely retest the unit to confirm successful repair of the failure.
 - b. If the unit still exhibits the failure mode, then proceed with normal troubleshooting techniques to identify the problem, per the customer complaint.



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Supplier Chargeback:

Supplier Chargeback ID: #543 has been opened in the system for this issue.

Service Inventory

Please purge existing inventory of the RFMD-SYNTH IC with date codes 0603 thru 0626. Re-stock only RFMD_SYNTH IC's with date codes after 0626. See information above for part identification.

P/N(s): 5188450M38 and 5188169Y01

Reference Designator(s): U250 (V3i, V3-05, L7, U6) and U100 (A1200, E2)

Call Center Action:

When responding to Problem Product customer inquires on the affected GSM Models where customer reports a Voice Call, No Turn On, or Invalid Battery related issue, please direct the customer to return the unit to an authorized service center for repair, per this FSB.

Service Entry Code

Please ensure that repairs of this type are logged on the Service Link database as follows:

Global M-Claims Codes:

Customer Complaint Code(s):

CPR01 (Voice Call – Can't Make Calls)
CPR02 (Voice call – Can't Receive Call)
CPR03 (Voice Call – No Service)
TON01 (Turn on/off - No Turn On)
BAT04 (Battery - Invalid Battery)

Problem Found Code:

CPR01 (Voice Call – Can't Make Calls)
CPR02 (Voice call – Can't Receive Call)
CPR03 (Voice Call – No Service)
TON01 (Turn on/off - No Turn On)
BAT04 (Battery - Invalid Battery)

Reference Designator Code:

U (Integrated Circuit/Module)

Repair Code:

REP06 (Replace Electrical Part – CSB/FSB)
RTH02 (Replace Level 3 Part - CSB/FSB)