

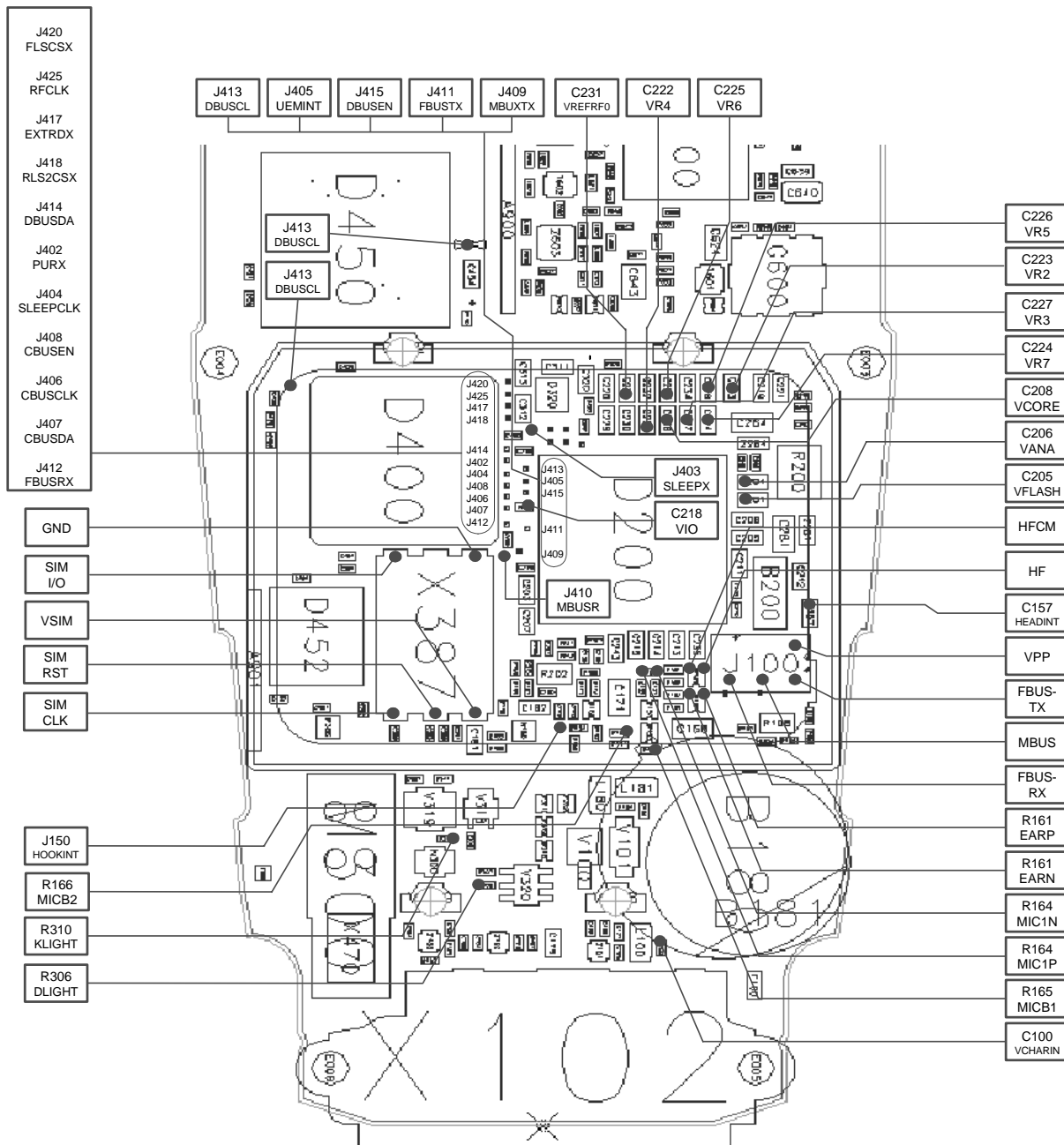
**CCS Technical Documentation
NPM-10 Series Transceivers**

Troubleshooting Instructions

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Baseband Testpoints



Fault-Finding Charts

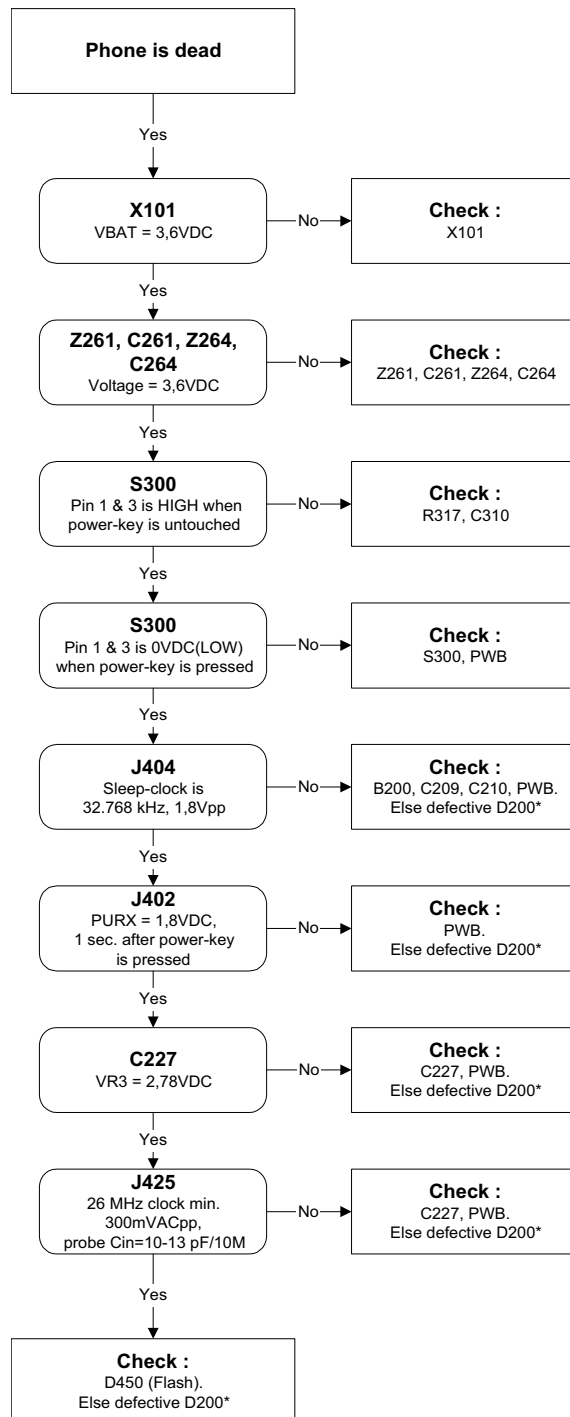
In this section, fault-finding charts are provided for the most common NPM-10 errors.

NOTE : Since both D200 (UEM) and D400(UPP) are underfilled, they cannot be replaced. If either D200 or D400 is defective, the entire PWB has to be discarded.

Phone is dead

This means that the phone does not draw any current at all when supply is connected and/or the power key is pressed.

It is assumed that the voltage supplied is 3.6 VDC. The UEM will prevent any functionality whatsoever at battery/supply levels below 2.9 VDC.



Flash programming does not work

The flash programming can only be done via the pads on the PWB (J100).

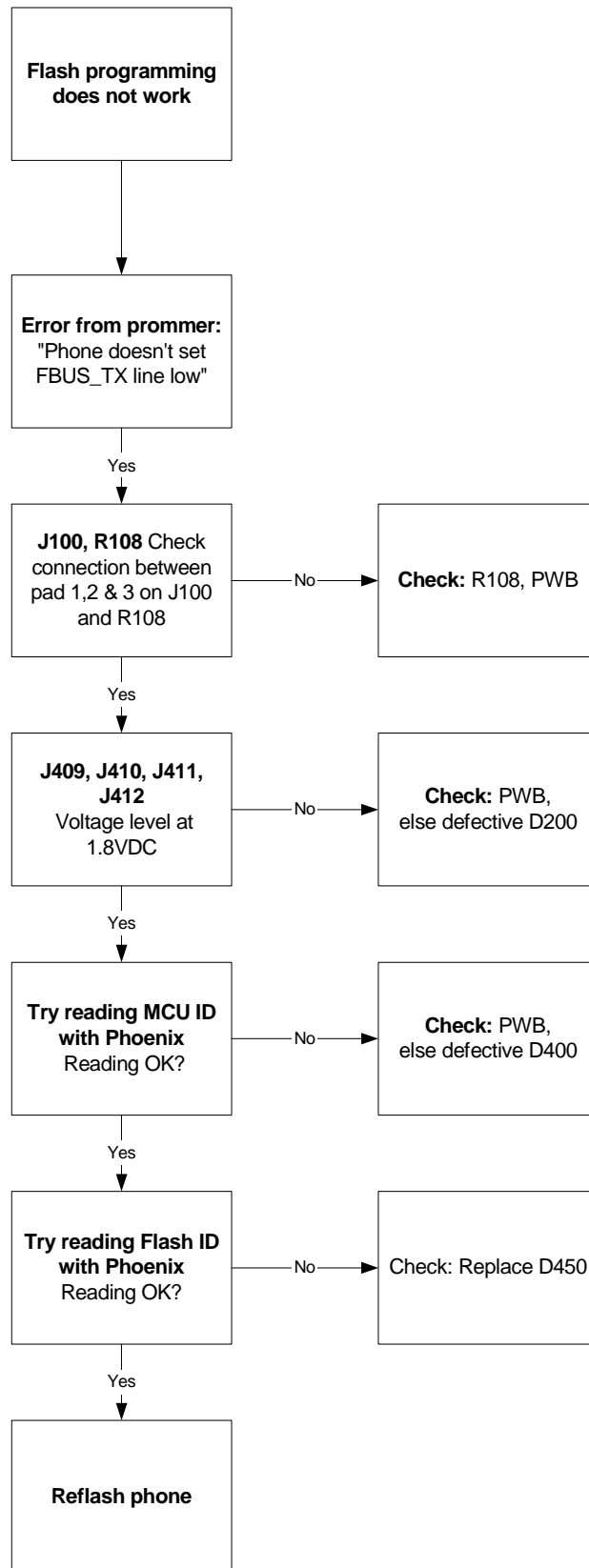
In case of flash failure in FLALI station, the problem is most likely related to SMD problems. Possible failures could be short-circuit of balls under μ BGAs (UEM, UPP, FLASH), or missing or misaligned components.

In flash programming error cases, the flash prommer can give some information about a fault.

The fault information messages could be:

- Phone doesn't set FBUS_TX line low

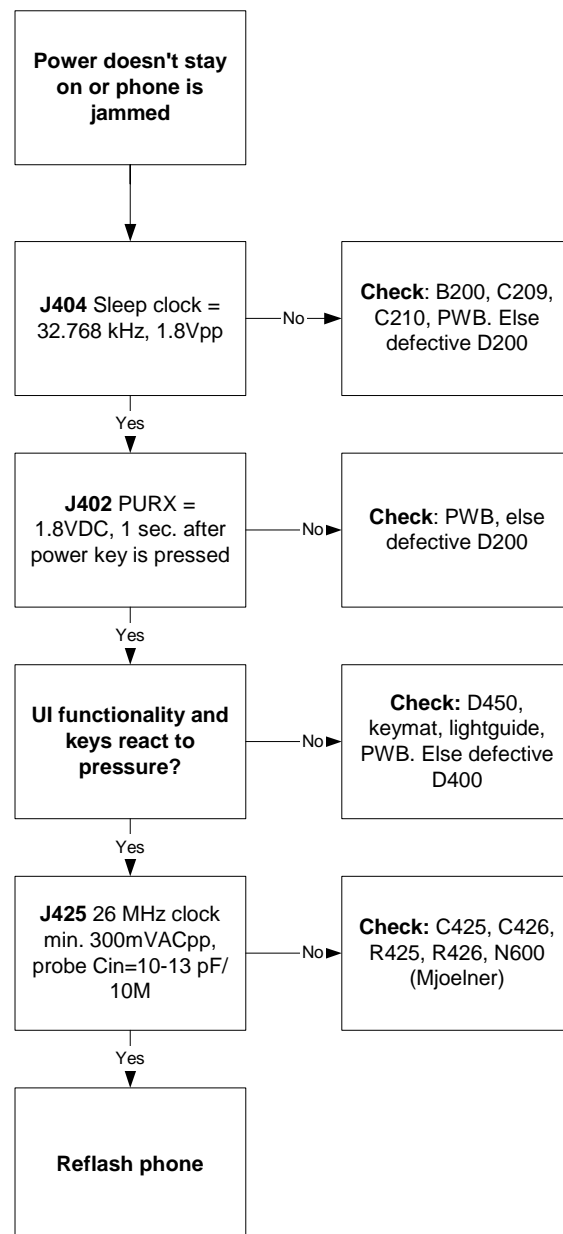
Because of the use of uBGA components, it is not possible to verify if there is a short circuit in control- and address lines of MCU (UPP) and memory (flash).



Power does not stay on or phone is jammed

If this kind of failure is presenting itself immediately after FLALI, it is most likely caused by ASICs missing contact with PWB.

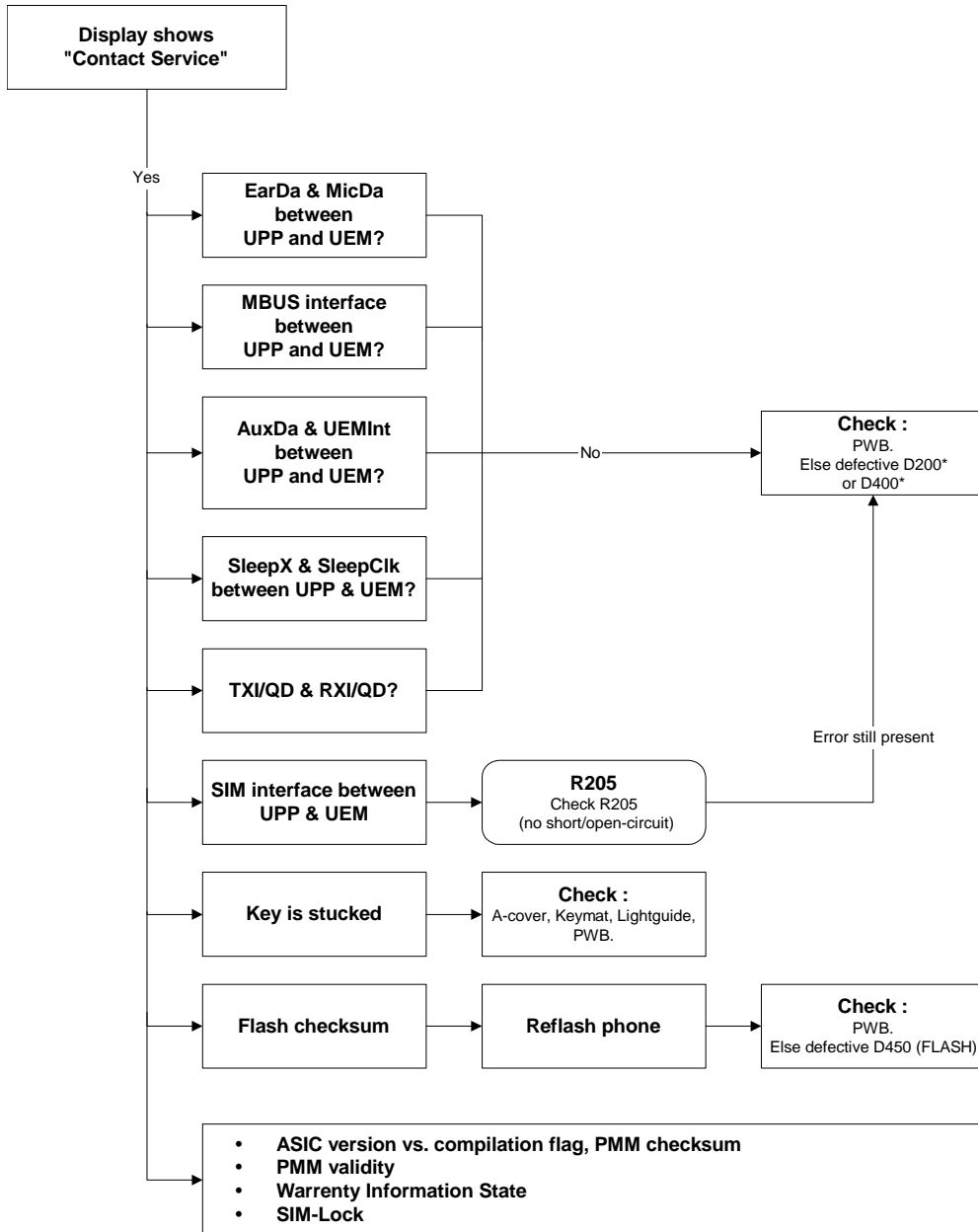
If for some reason the MCU does not service the watchdog register within the UEM, the operations watchdog will run out after approximately 32 seconds. Unfortunately, the service routine cannot be measured.



Display information: "Contact Service"

This error can only happen at power up where several self-tests run. If any of these test cases fails, the display will show the message: "Contact Service".

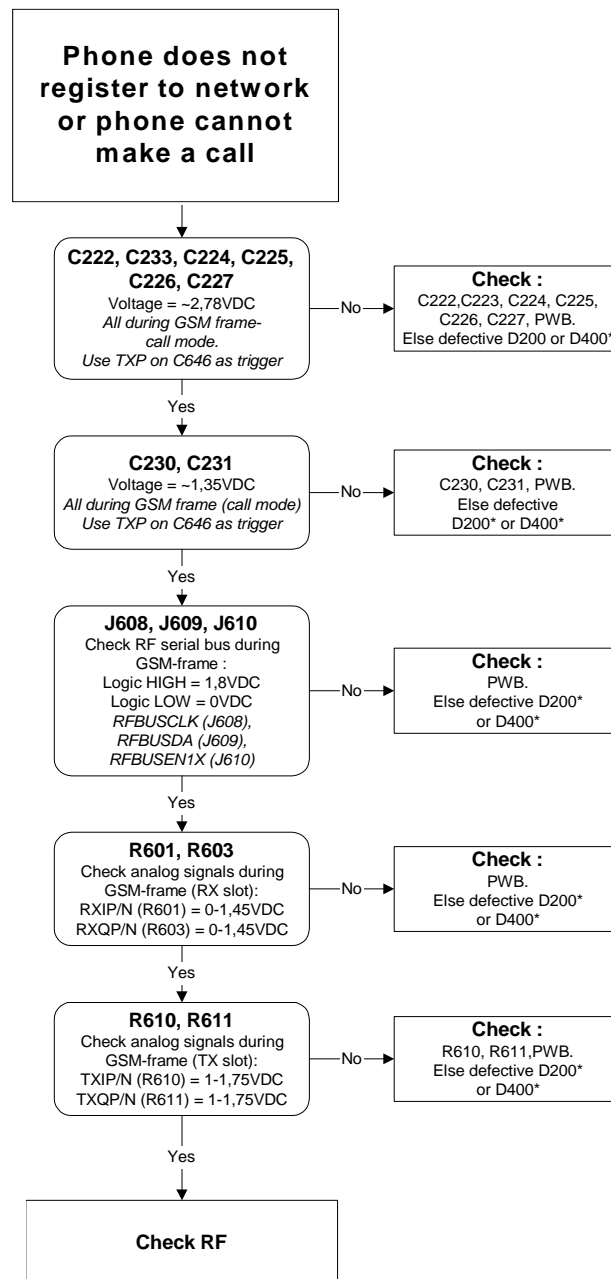
It's individual test cases, so the following list of possible errors has no chronological order. Use common sense and experience to decide where to begin error hunting.



Phone does not register onto the network, or the phone cannot make a call

If the phone doesn't register to the network, the fault can be in either BB or RF. Only few signals can be tested, since several signals are buried in one or more of the inner layers of the PWB.

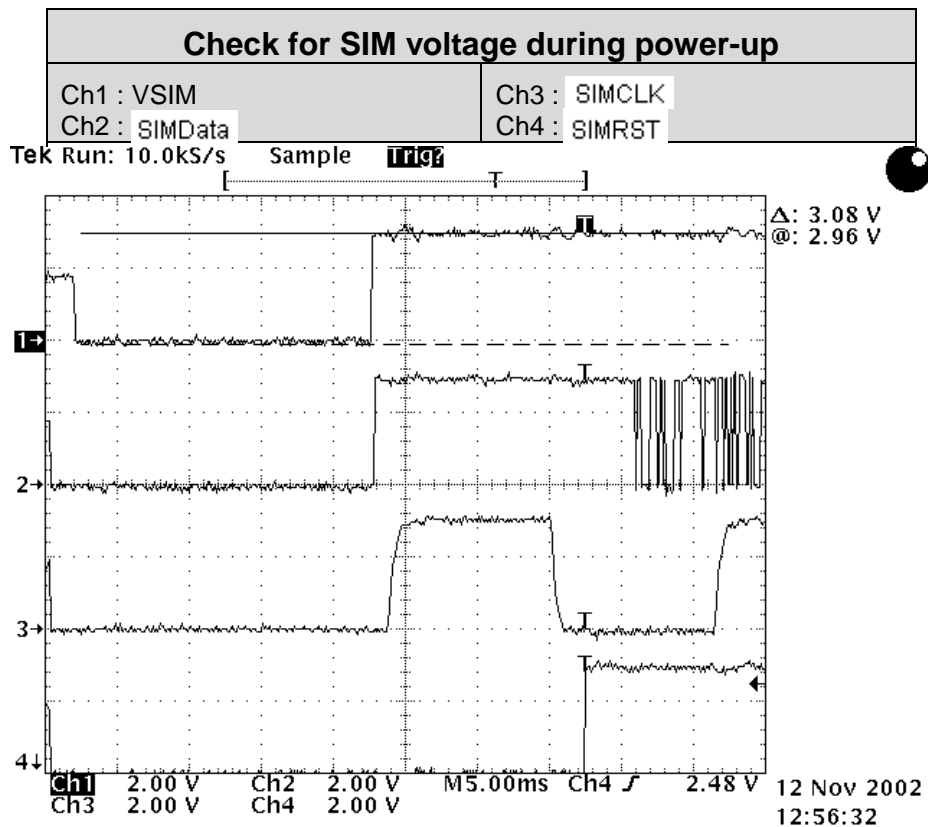
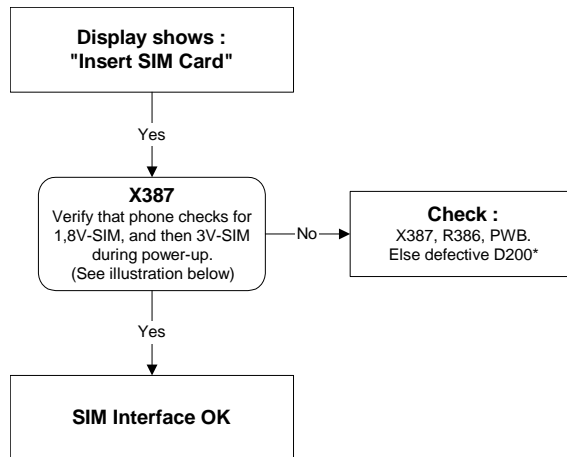
First, check that the SIM LOCK is not causing the error by using a Test-SIM card and connecting the phone to a tester.



SIM-related faults

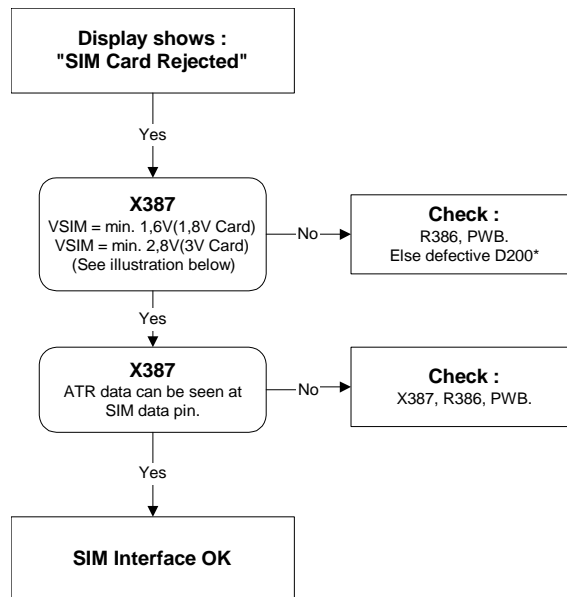
Insert SIM card fault

The hardware of the SIM interface from UEM (D200) to the SIM connector (X387) can be tested without a SIM card. When the power is switched on the phone first check for a 1.8V SIM card and then a 3V SIM card. The phone will try this four times, whereafter it will display "Insert SIM card".

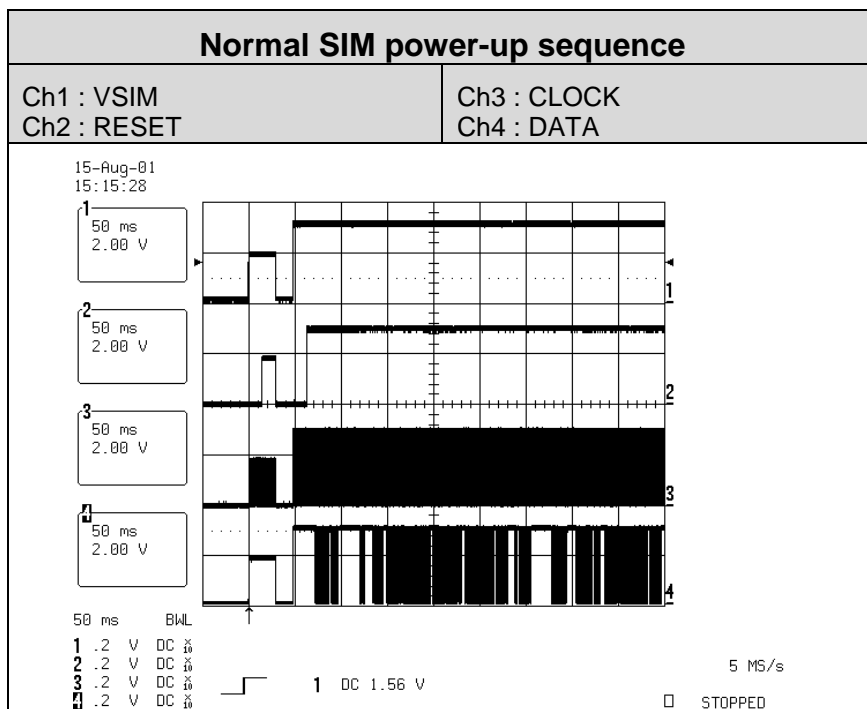


SIM-Card rejected

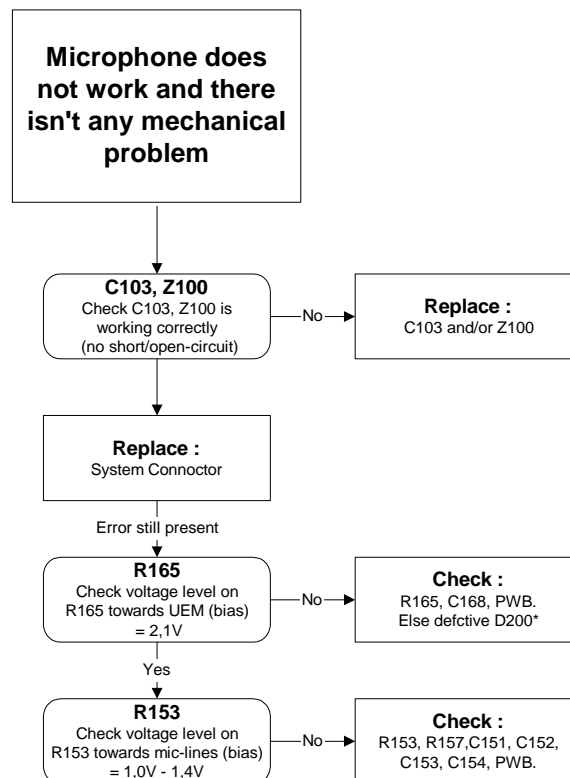
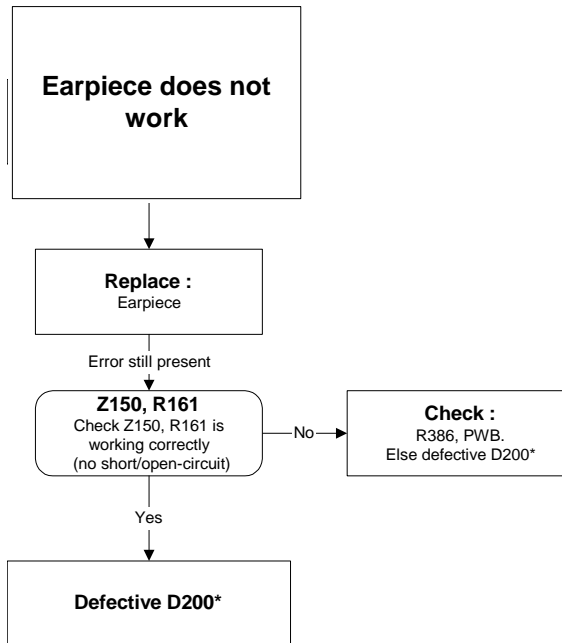
The error "SIM card rejected" means that the ATR message received from SIM card is corrupted, e.g. data signal levels are wrong. The first data is always ATR and it is sent from card to phone.

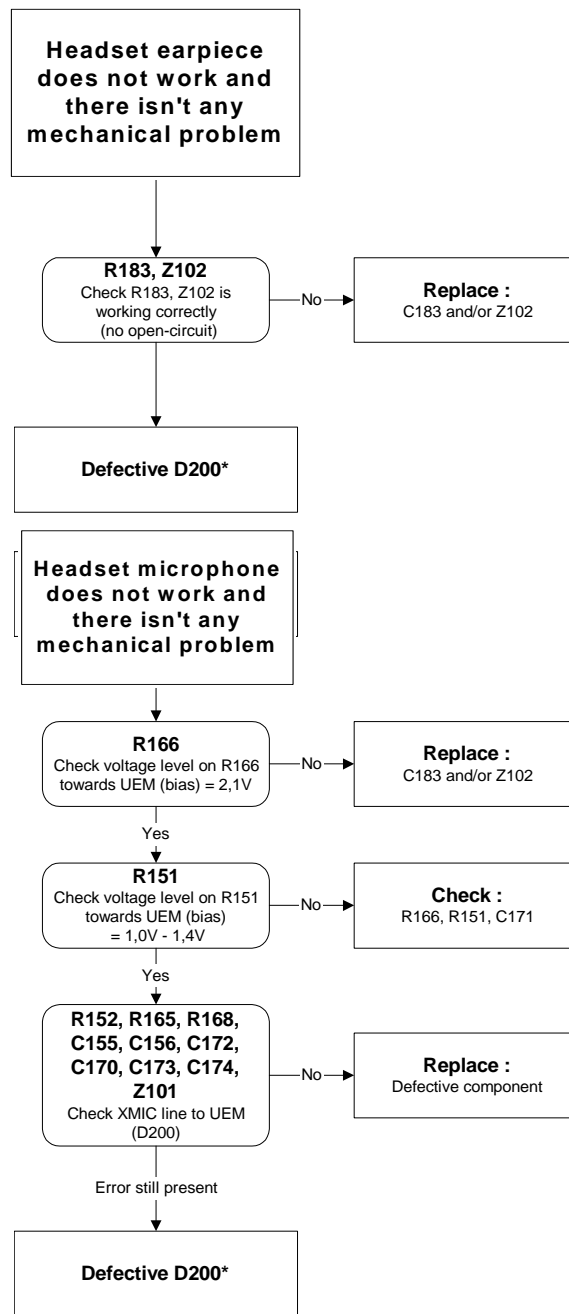


For reference a picture with normal SIM power-up is shown below.



Audio-related faults





Charging failure

