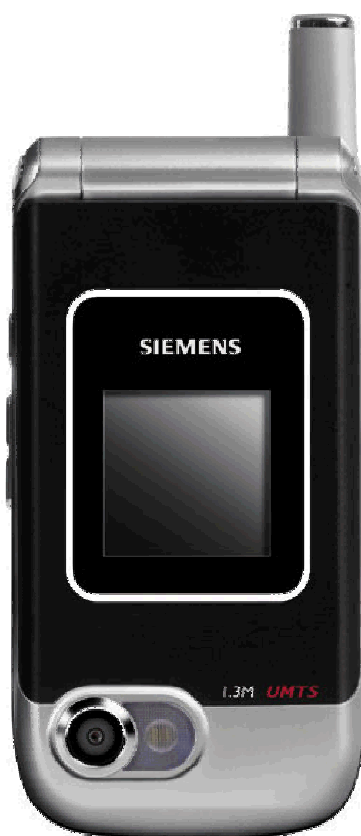


# Service Repair Documentation

## Level 3 (basic)

### S80/82/SFG75



Release	Date	Department	Notes to change
R 1.0	22.12.2005	BenQ CC S CES	New document

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# 1 Introduction

This document describes the performance description for Siemens service partners.

## 1.1 Purpose

This Service Repair Documentation is intended to carry out repairs on BenQ Mobile repair level 3 basic. The described failures shall be repaired in Siemens authorized local workshops only,

The level 3(former Level 2.5e) partners are obliged to repair level 2 classified boards, up to their repair level, under consideration of the information given by level 3 repair instruction.

All repairs have to be carried out in an ESD protected environment and with ESD protected equipment/tools. For all activities the international ESD regulations have to be considered.

Assembling/disassembling has to be done according to the latest S80 Level 2 repair documentation. It has to be ensured that every repaired mobile Phone is checked according to the latest released General Test Instruction document (both documents are available in the Technical Support section of the C-market).

Check at least weekly C-market for updates and consider all S80 related Customer Care Information

S80 Part number on IMEI label:

**Scrap Handling: All Scrap information given in this manual are related to the SCRAP-Rules and instructions.**

**Attention: Consider the new "LEAD-FREE" soldering rules (available in the communication market), avoid excessive heat.**

## 1.2 Scope

This document is the reference document for all BenQ mobile authorised Service Partners which are released to repair BenQ mobile phones up to level 2.5 light.

## 1.3 Terms and Abbreviations

## 2 List of available level 3 basic parts

(According to Component Matrix V1.11 - check C-market for updates)

Product	ID	Order Number	Description CM
S80	J200	L50334-Z97-C522	CONNECT SKT60P AXK7L60227 BQ20.L1096.060
S80	U800	L50851-Z1901-A62	ANT 3*5.1*5 56E12 BQ20.M0007.021
S80	J302	L50334-Z97-C523	CONNECTOR DC PWR 2P BQ20.N2002.021
S80	J301	L50334-Z97-C524	CON BATT3P CBE-4517-2904H BQ21.N0036.011
S80	U852	L50334-Z97-C525	CONN SPRING SBS23-2K30F00 BQ21.N0045.011
S80	J250	L50334-Z97-C526	CONN I/O 10P ACT/916-2941 BQ2K.N0083.001
S80	J351	L50334-Z97-C527	CONN SIM 6P D2.54 302-368 BQ21.N0050.001
S80	J350	L50334-Z97-C528	CONN MINI SD 9P 500525 BQ21.N0058.011
S80	J201	L50334-Z97-C529	CONN BTB D1.5 18P BQ21.N1003.011
S80	J202	L50315-Z77-C261	SWI VOLUME KEY 5P BQ21.P0004.005
S80	J300	L50158-A185-A16-1	ASS LOUD SPEAK. CONN. S80_BQ60.H0916.001
S80	J251	L50158-A185-A17-1	ASSY CONN. MIC WHITE S80_BQ65.G0101.004
S80	MMI board	L50840-L2133-D670	DISDIODE LED BL-HB536G BQ83.00536.071
S80	MMI board	L50810-U6228-D670	IC PER HALL A3212ELH BQ74.03212.09Y
S80	F250 F300	L50145-A820-Y23	FUSE 1A 24V F0603 1608FF BQ69.41004.001
S80	U801	L50145-K280-Y415	SWITCH ANT MS-147 HIROSE BQ69.50017.001
S80		L50851-Z1901-A63	ANT 2.4GHZ AT5020-B2R8HAA BQ69.F0005.021

## 3 Hardware requirements

(According to General soldering information V1.3 - check C-market for updates)

Jigs, Tools and working materials for all described repairs:

- hot air blower
- soldering gun
- tweezers
- flux
- solder

## 4 S80 Board layout

Upper board side

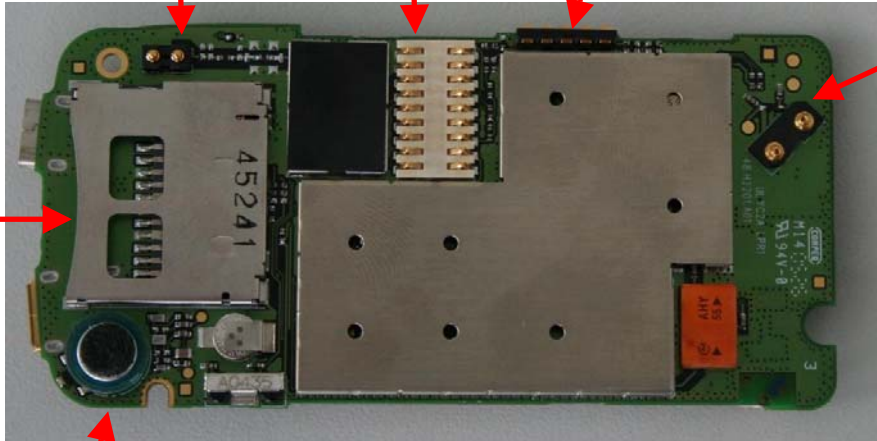
U852:  
Bluetooth  
Antenna  
Contact

J201  
MMI  
Connector

Switch  
volume  
Keys

J300:  
Vibra  
Contact

J350:  
Mini SD  
Connector



J251:  
Microphone

Lower board side

U800:  
Antenna  
Contact

U801:  
Antenna  
Switch

J250:  
IO Connector

J301:  
Battery  
Connector

J302:  
Connector  
DC Power

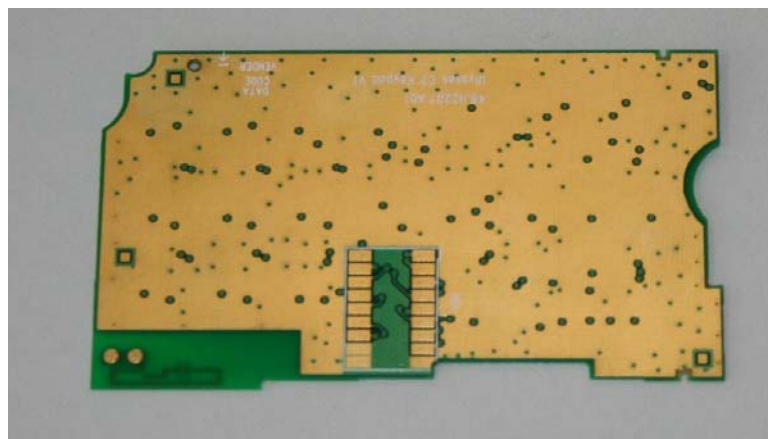
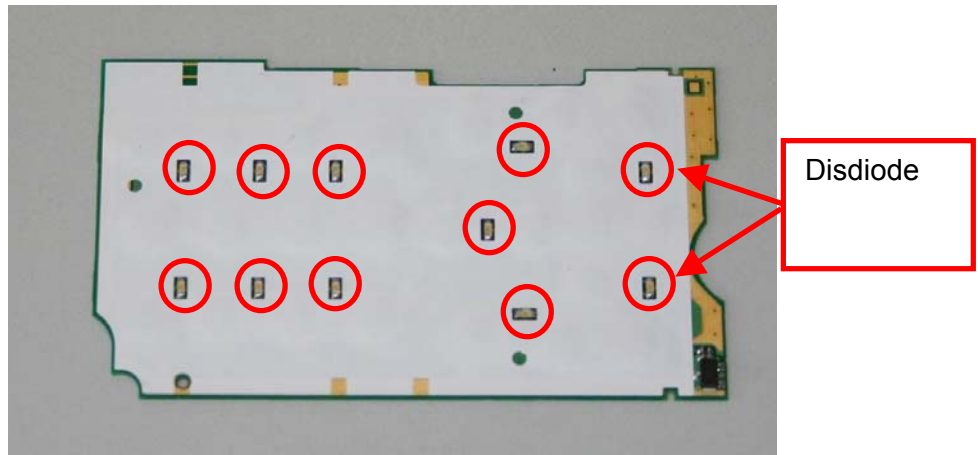
Fuse 1A



J200:  
Connector  
BTB

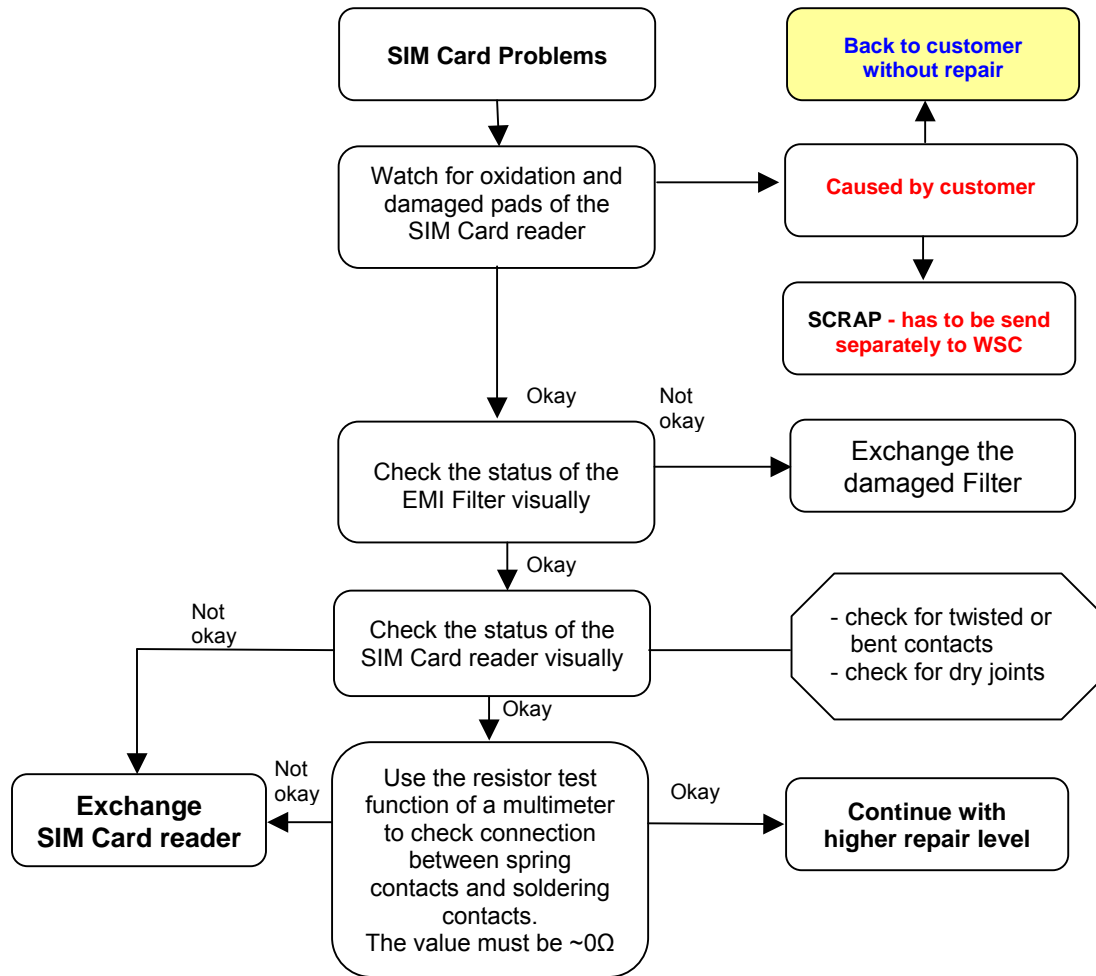
J351:  
SIM Card

MMI Board



## 5 SIM Card Problems

Fault Symptoms	
Customer: Handset does not accept SIM card	GRT: SIM Card Problems



### Connector SIM Card Reader

Use soldering iron to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

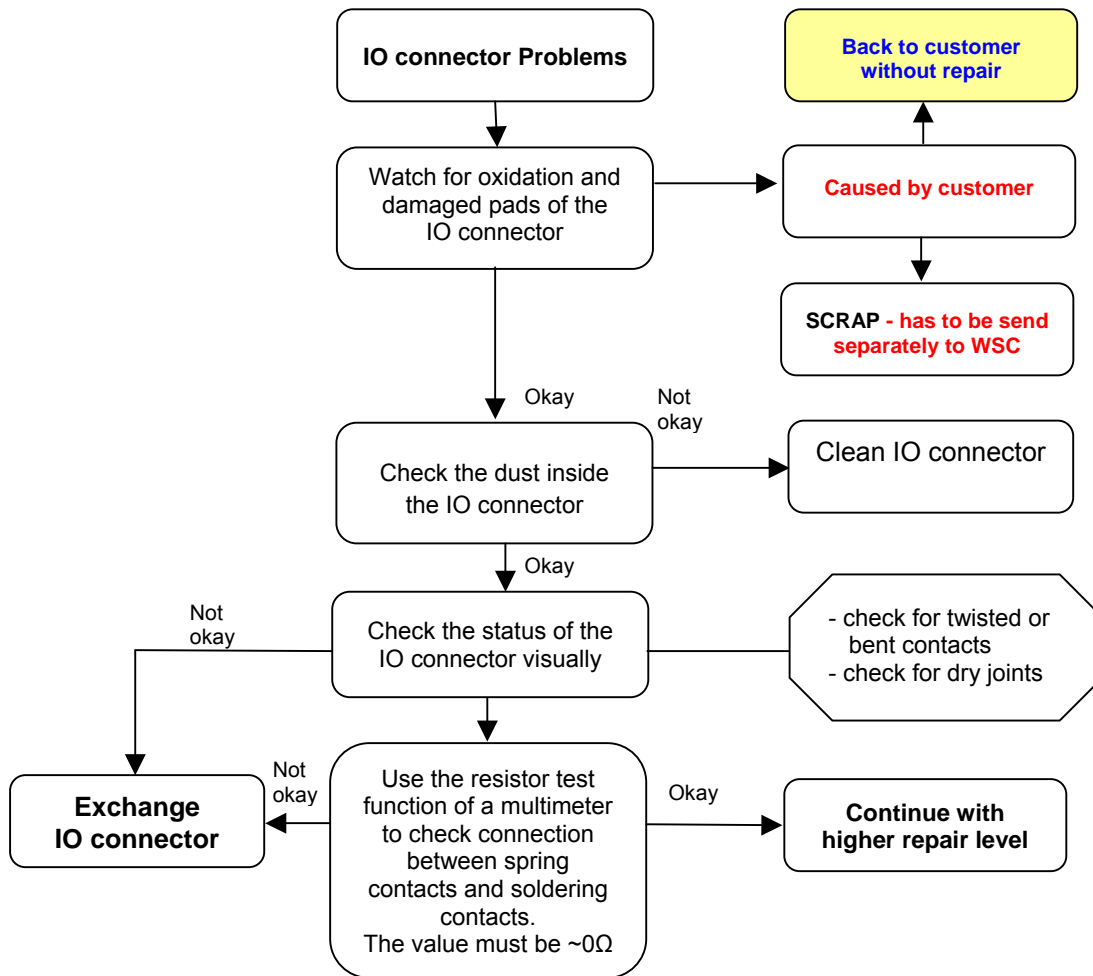
E-commerce order number: L50634-Z97-C406

E-commerce order name: CONNECTOR SIM CARD READER R65 (B)

Soldering temperature: ~ 360°C TIP Temp.

## 6 IO Connector Problems

<b>Fault Symptoms</b>	
Customer: Charging Problems Problems with external loudspeaker or microphone when using a car kit Problems with accessories connected at the IO connector	GRT: No connection to GRT



### Connector IO Jack

Use soldering iron to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50334-Z97-C526  
 E-commerce order name: CONN I/O 10P ACT/916-2941 BQ2K.N0083.001  
 Soldering temperature: ~ 360°C TIP Temp.

IRIS Diagnose Code: 46100 Interface/Charging Connector/Mechanical Damage  
 47300 Interface/Data Interface/Mechanical Damage  
 4B100 Interface/Headset Connector/Mechanical Damage

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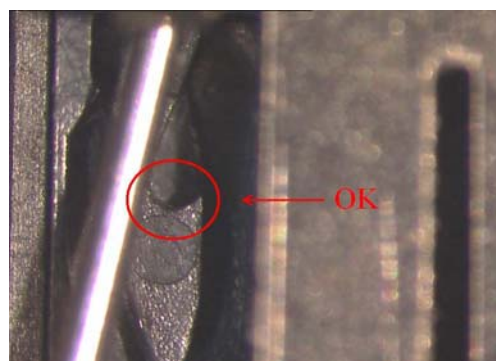
## Important additional soldering hints

The MMC Reader is located on the opposite of the SLIM-Lumberg connector. Therefore the risk to damage the plastic material of this MMC-Reader is potentially high if excessive heat is used while removal or soldering of the SLIM-Lumberg connector.

Please follow these instructions:

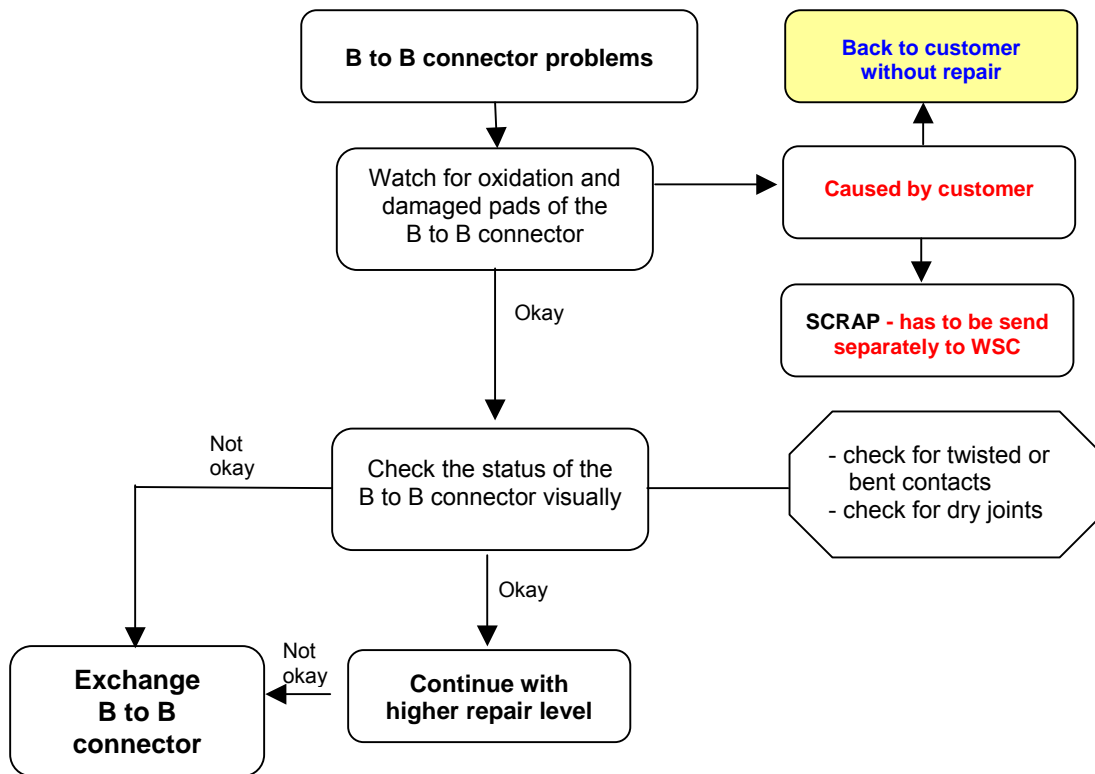
- a) Remove the SLIM-Lumberg connector with a soldering iron and Resolder Wick
- b) Clean the Pads afterwards
- c) Solder the new connector by using soldering iron under consideration of the max. allowed temperature range.

## Samples of critical area:



## 7 B to B connector (upper slider part) problems

Fault Symptoms	
Customer: Upper slider keyboard malfunction Upper slider keypad illumination does not work Display problems	GRT: Keyboard malfunction Current measured failed



### Connector Board to Board

Use hot air blower to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

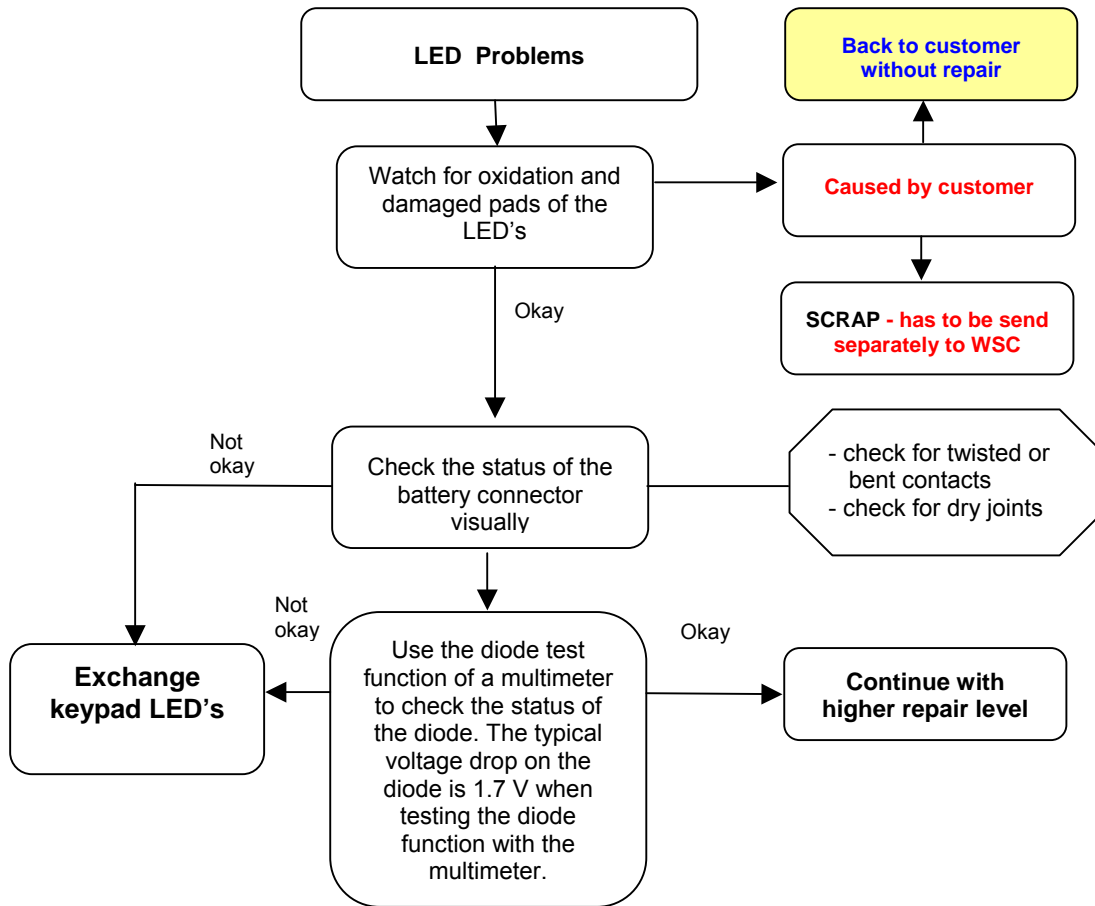
E-commerce order number: L50334-Z97-C529  
 E-commerce order name: CONN BTB D1.5 18P BQ21.N1003.011  
 Soldering temperature: ~ 360°C TIP Temp.

IRIS Diagnose Code: 32100 Keys / Main / No Function  
 32200 Keys / Main / Reduced Functionality  
 36000 Keys / Illumination

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## 8 Main keypad illumination problems

Fault Symptoms	
Customer: Main keypad illumination does not work	GRT: Current measured failed



### LED WHITE TOP

Use soldering iron to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

**Attention: Remove Metal Dome Sheet before!!!**

E-commerce order number: L50840-L2133-D670

E-commerce order name: DISDIODE LED BL-HB536G BQ83.00536.071

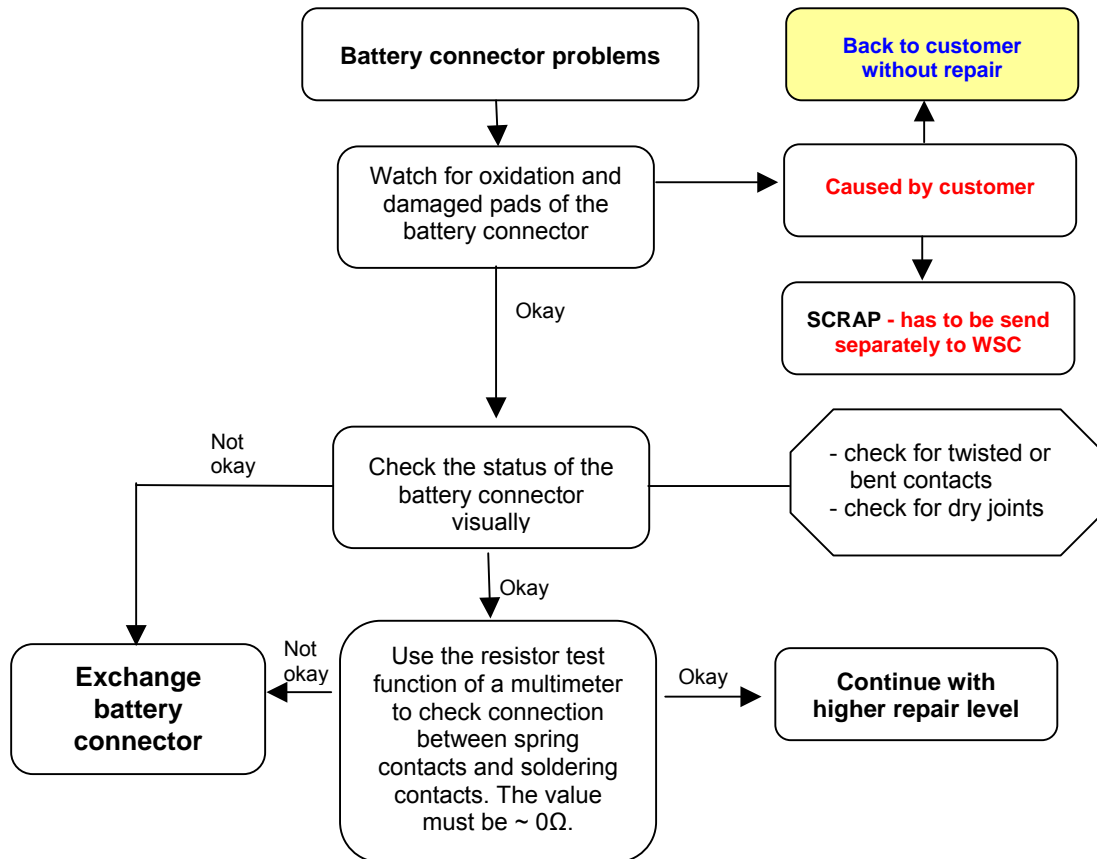
Soldering temperature: ~ 360°C TIP Temp.

IRIS Diagnose Code: 36000 Keys / Illumination

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## 9 Connector Battery

Fault Symptoms	
Customer: Mobile does not switch on	GRT: No connection to GRT



### Connector BATTERY

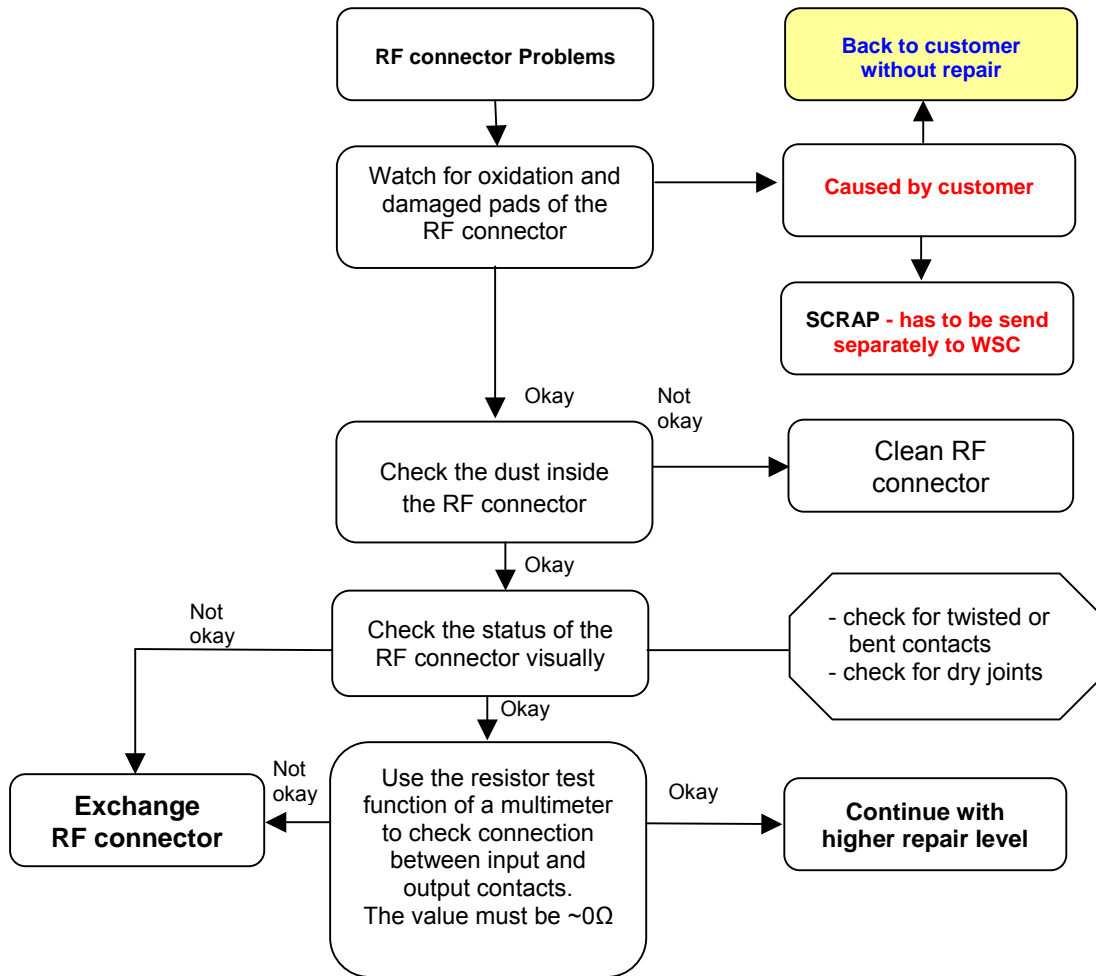
Use hot air blower to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50334-Z97-C524  
 E-commerce order name: CON BATT3P CBE-4517-2904H BQ21.N0036.011  
 Soldering temperature: 240 - 255°C  
 IRIS Diagnose Code: 13000 Battery/Mechanical Damage

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## 10 Connector RF Internal Antenna

Fault Symptoms	
<b>Customer:</b> Network search No location update possible	<b>GRT:</b> Failure by TX/RX measurements No location update possible



### Connector RF

Use hot air blower to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

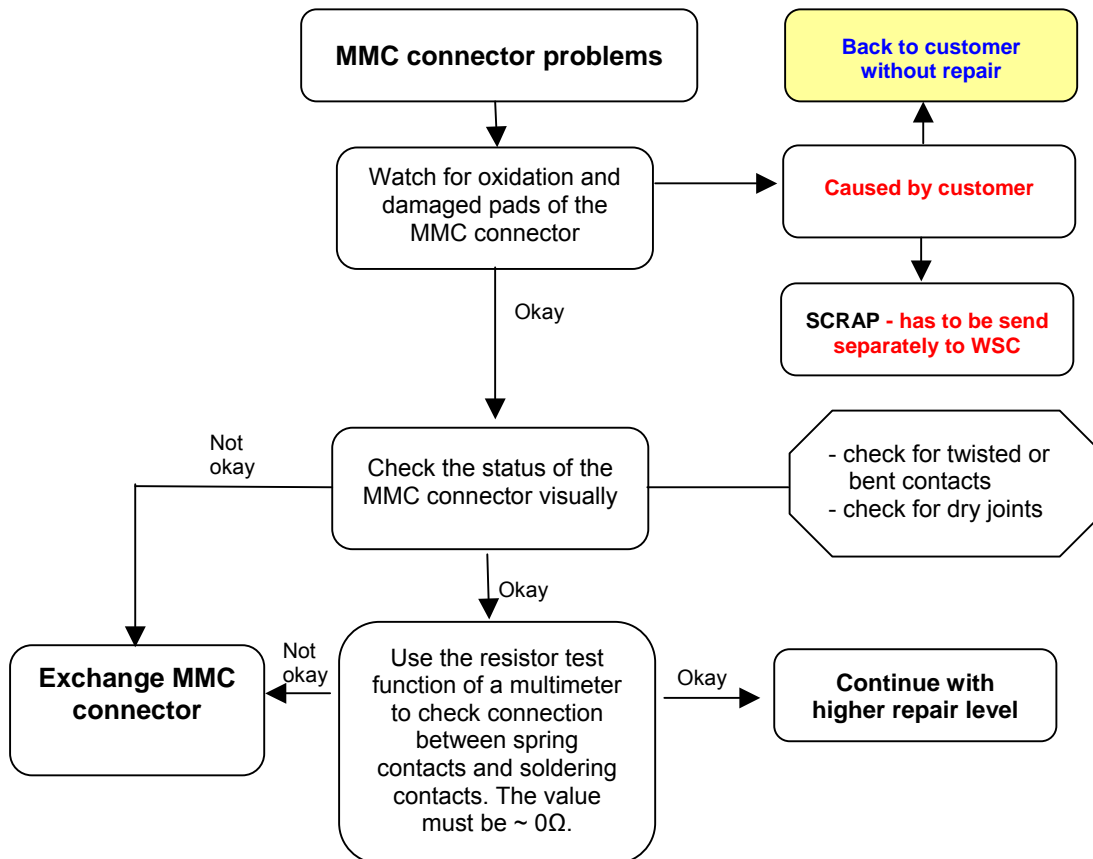
E-commerce order number: L50145-K280-Y415  
 E-commerce name: SWITCH ANT MS-147 HIROSE BQ69.50017.001  
 Soldering temperature: 240 - 255°C  
 IRIS Diagnose Code:

- |   |   |
|---|---|
| 81100 Radio / No Contact / Int. Antenna           | 81200 Radio / No Contact / Ext. Antenna           |
| 82100 Radio / Low Receiving Signal / Int. Antenna | 82200 Radio / Low Receiving Signal / Ext. Antenna |
| 83100 Radio / Dropped Calls / Int. Antenna        | 83200 Radio / Dropped Calls / Ext. Antenna        |
| 84100 Radios / Call Setup / Int. Antenna          | 84200 Radio / Call Setup / Ext. Antenna           |

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**11 Connector Mini SD**

Fault Symptoms	
Customer: MMC malfunction	GRT: Tbd.



**Connector MMC**

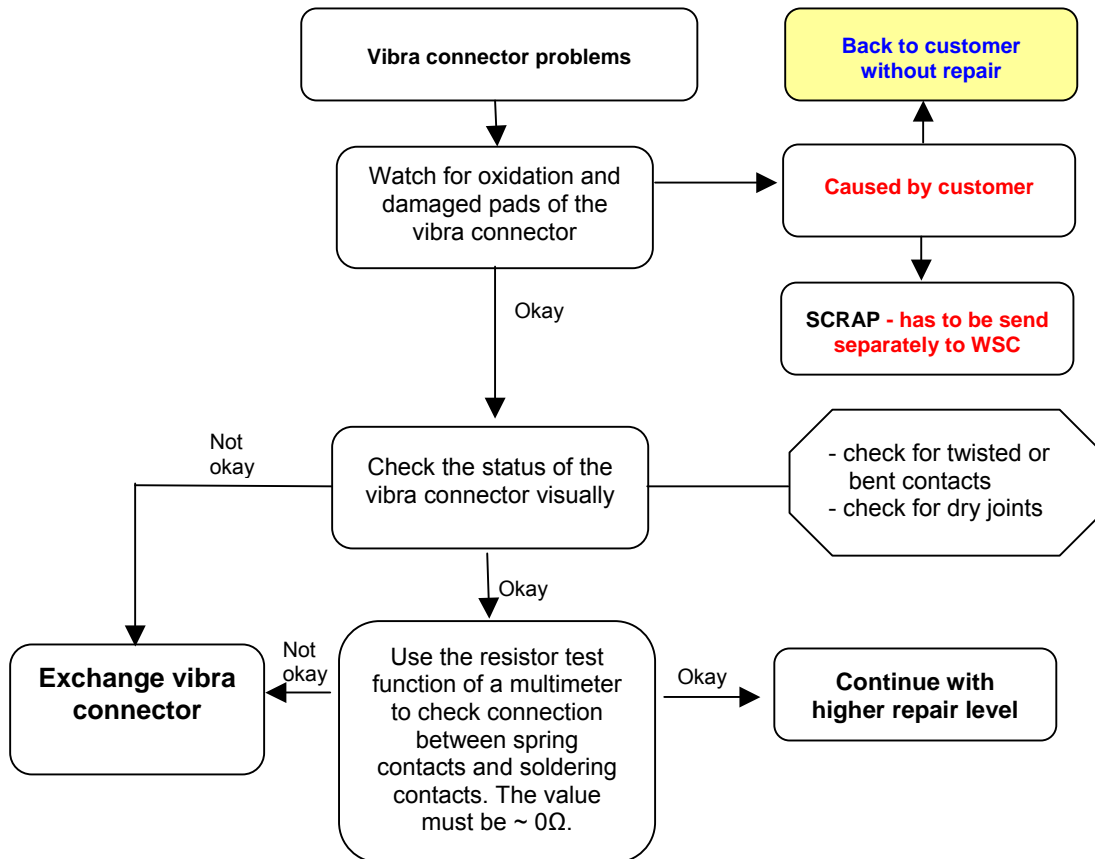
Use soldering iron to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50334-Z97-C528  
 E-commerce order name: CONN MINI SD 9P 500525 BQ21.N0058.011  
 Soldering temperature: ~ 360°C TIP Temp.  
 IRIS Diagnose Code: 4E000 Interfaces/ Memory Card Reader

**Attention: Avoid excessive heat in order not to damage the plastic material of the connector (see problem SLIM-Lumberg connector)**

## 12 Connector Vibra

Fault Symptoms	
Customer: VIBRA does not work	GRT: Supported in April



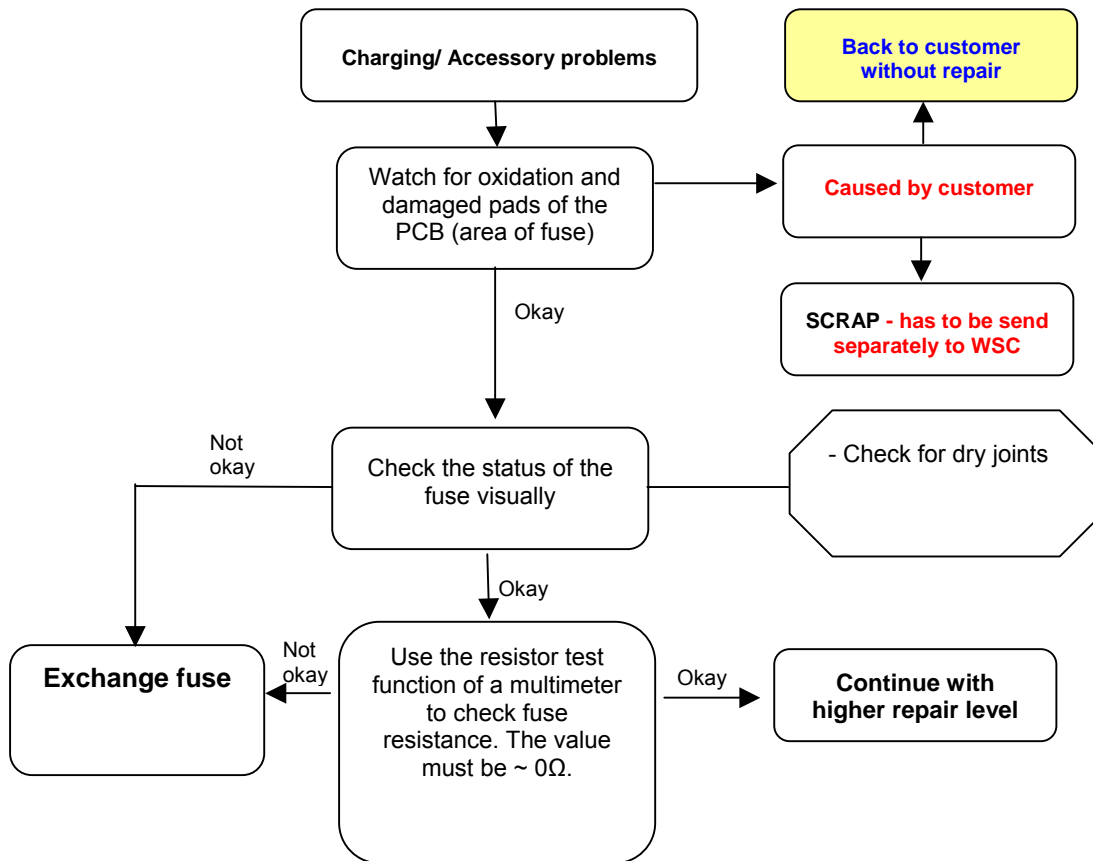
### VIBRA Connector

Use hot air blower to remove defective component. Avoid excessive heat!  
Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50334-Z97-C525  
 E-commerce order name: CONN SPRING SBS23-2K30F00 BQ21.N0045.011  
 Soldering temperature: 240 - 255°C.  
 IRIS Diagnose Code: 75100: Acoustics / Vibra /No Function

## 13 Fuse

Fault Symptoms	
Customer: Battery charging does not work	GRT: Supported in April



### Fuse

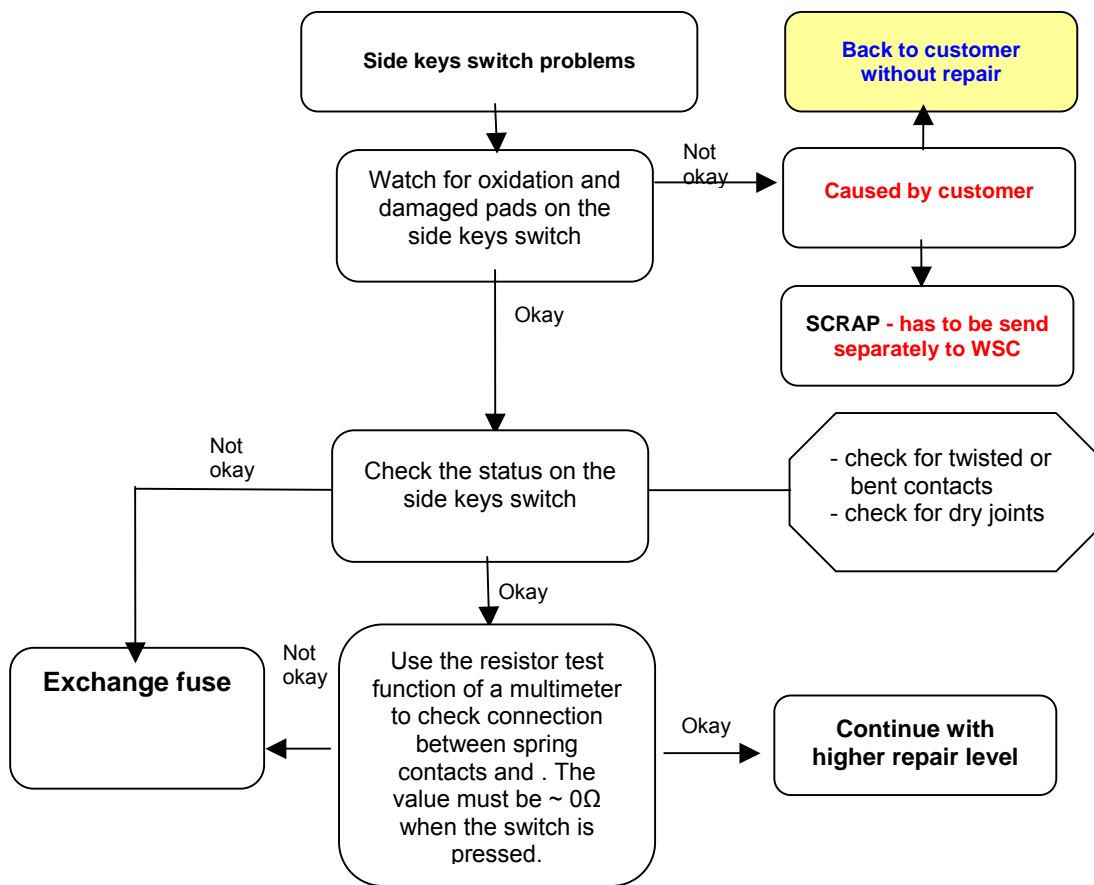
Use hot air blower to remove defective component. Avoid excessive heat!  
Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50145-A820-Y23  
 E-commerce order name: FUSE 1A 24V F0603 1608FF BQ69.41004.001  
 Soldering temperature: 240 - 255°C  
 IRIS Diagnose Code: 11000 Battery / No charging / deep discharge



## 14 Connector Sidekeys

Fault Symptoms	
Customer: Pressing feeling is bad	GRT: Supported in April
No function while pressing	Supported in April



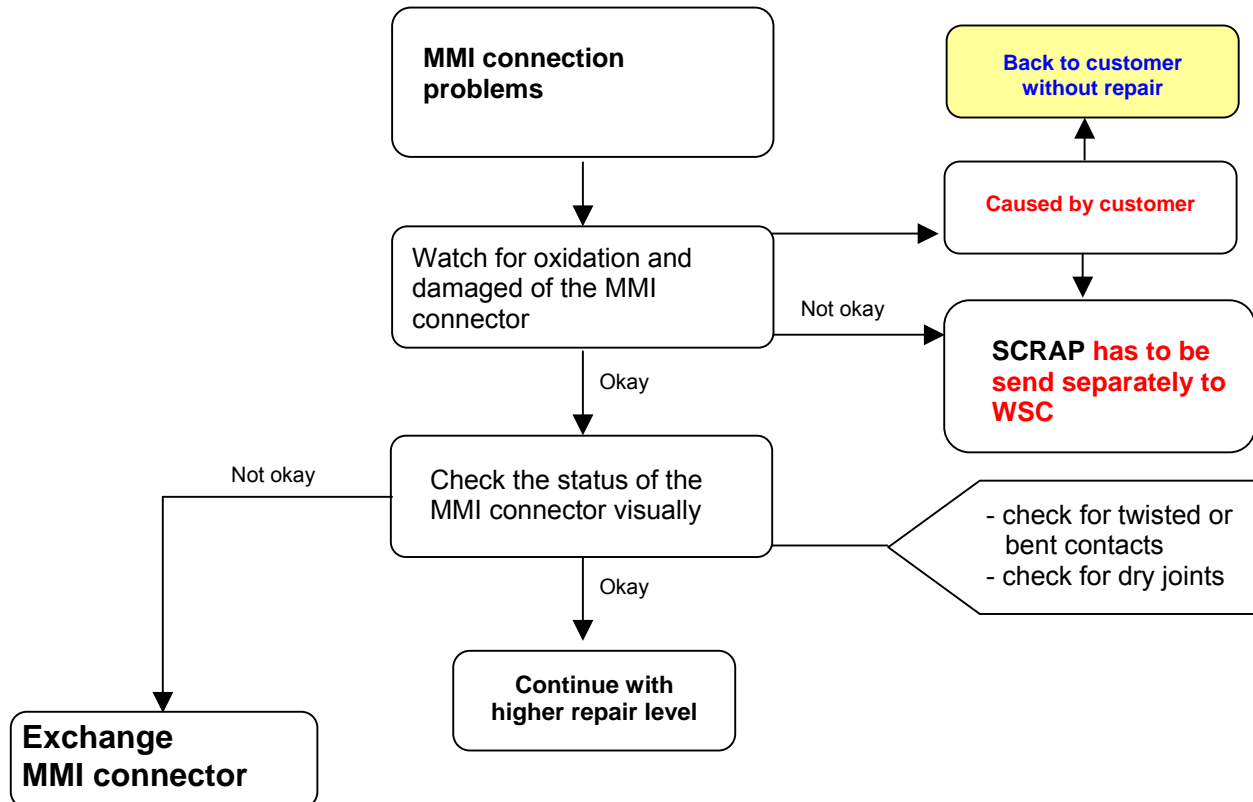
### Side key switch

Use hot air blower to remove defective component. Avoid excessive heat!  
Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50315-Z77-C261  
 E-commerce order name: SWI VOLUME KEY 5P BQ21.P0004.005  
 Soldering temperature: 240 - 255°C  
 IRIS Diagnose Code: 34100 Keys / Side

**15 Connector MMI**

Fault Symptoms	
Customer: Keyboard malfunction	GRT: Keyboard malfunction



**Connector MMI**

Use soldering iron to remove defective component. Avoid excessive heat!  
Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50315-Z77-C261  
 E-commerce order name: SWI VOLUME KEY 5P BQ21.P0004.005  
 Soldering temperature: 240 - 255°C  
 IRIS Diagnose Code: 34100 Keys / Side