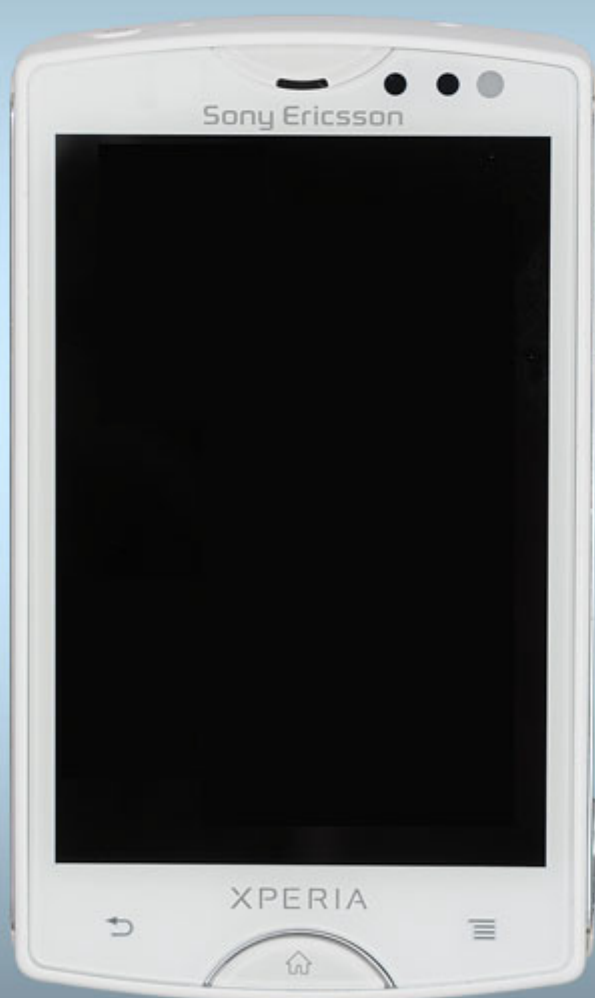




Sony Ericsson

# Component Replacement

- electrical -



*Xperia™ mini*

*ST15i, ST15a, S51SE*

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***For general information about electrical repair related issues, refer to  
1220-1336: Generic Repair Manual - electrical***



# 1 Replaceable Components

## EXPLANATION OF ABBREVIATIONS USED IN THE COLUMN 'COMMENTS' BELOW

### COMPONENT LOCATION

**P** = Primary side

**S** = Secondary side

### MOISTURE SENSITIVITY LEVEL

**MSLX** (X = 1, 2, 2A, 3, 4, 5, 5A or 6)

**For more information on moisture sensitivity levels:**

**Refer to 1220-1336: Generic Repair Manual – electrical, section 'Moisture & Baking'!**

### REPAIR METHOD

**HA** = Hot Air (removal & mounting)

**ST** = Soldering Tool (removal & mounting)

**HA/ST** = Hot Air for removal - Soldering Tool for mounting

**BGA** = BGA Station

**BH** = Bottom Heater

### ADDITIONAL INFORMATION

⇒1 (2,3,4, etc.) = Proceed to 'Additional Repair Info' for further instructions in the indicated section(s).

### CALIBRATION

**CAL** in the column *Comments* = Calibration of the phone is required after replacing the component

**Calibration to be done by authorized centers only!**

### REMOVE SENSITIVITY PARTS

Due to the temperature sensitivity, the camera has to be removed before any repair action is done on the PBA. Adhesives, gaskets and the Dome sheet has also to been removed when there is a risk for them to be heated. Please follow the Replacement instruction in the Working instruction.



## Component Replacement (elec)

Position	Component	Part no.	Comments
B3501	Mic 4.0 Electret	1224-0804	P BGA ⇒1
B3502	Microphone	1248-6841	P BGA ⇒2
B5100	Vibr Bar Analog DC	1204-8172	S BGA ⇒3
C1312C	Capacitor 100.0 nF	1000-6848	P HA
C1317	Capacitor 1.0 uF +/-10% 25.0 V K0603	1000-0076	P HA
C2200	Capacitor 1.0 uF +/-10% 25.0 V K0603	1000-0076	S HA ⇒4
C7603	Capacitor Ceramic 4.7 uF	1200-1678	P HA
E1006	Thread Insert	1240-8715	P HA+BH
L1000	Ind WW 2.2 uH	1232-8769	P HA
L1001	Ind WW 2.2 uH	1232-8769	P HA
L1002	Ind Chip 2.2 uH	1234-7293	P HA
L1003	Ind WW 2.2 uH	1232-8769	P HA
L1004	Ind WW 2.2 uH	1232-8769	P HA
L1300C	Ind Chip 1.0 uH	1225-8646	P HA
L1306	Ferrite B 120 Ohm	1200-2944	P HA
L2400C	Ind WW 2.2 uH	1232-8769	P HA
L2401C	Filter 100 MHz	1212-8970	P HA
L3100	Ind Chip 120.0 nH	1236-1090	S HA ⇒4
L3500	Inductor Chip	1203-8594	S HA ⇒5
L3501	Inductor Chip	1203-8594	S HA ⇒5
L3502	Inductor Chip	1203-8594	P HA
L3503	Inductor Chip	1203-8594	P HA
L3504	Resistor 0.0 Ohm +/-5% NA mW K0402	1000-0179	P HA ⇒6
L3505	Resistor 0.0 Ohm +/-5% NA mW K0402	1000-0179	P HA ⇒6
L3506	Resistor 0.0 Ohm +/-5% NA mW K0402	1000-0179	P HA ⇒6
L3600	Filter	1000-2609	S HA ⇒7
L3601	Filter	1000-2609	S HA ⇒7
L3602	Ferrite B 1.8 kOhm	1237-6064	S HA ⇒8
L3603	Ferrite B 1.8 kOhm	1237-6064	S HA ⇒8
L3604	Ferrite B 1.8 kOhm	1237-6064	S HA ⇒8
L3605	Transformer	1203-0723	S HA ⇒4
L7600	Ind WW 10, uH	1000-3331	P HA
L7610	Ferrite B 1.8 kOhm	1237-6064	P HA
L7801	Ind Chip 1.0 uH +/-20% K2520	1201-5637	P HA
L8100	Ind Chip 1.5 uH 20% K2520	1212-9925	P HA



Position	Component	Part no.	Comments
N1302C	IC Linear Fuel Guage	1237-9687	P HA
N1303C	ASIC PM Charger with OTG	1237-3321	P HA
N1304	IC Vreg R1154x	1245-5261	P HA
N2200	IC ESD Prot	1227-8675	S HA ⇒4
N2401C	IC Lin Converter Step Down	1227-6376	P HA
N2801C	Mod PA QUAD GSM850/GSM900/DCS/EDGE	1232-2928	P BGA CAL
N2803C	RF Antenna Switch GSM & UMTS/CDMA Dual	1237-2994	P BGA CAL
N2900C	Mod PA WCDMA 824-849 MHz	1237-1770	P HA CAL [for band 5]
N2900C	Mod PA WCDMA 880-915 MHz	1237-1771	P HA CAL [for band 8]
N2902C	Mod PA WCDMA 1850-1910 MHz	1237-1768	P HA CAL [for band 2]
N2902C	Mod PA WCDMA 1710-1785 MHz	1243-1810	P HA CAL [for band 9]
N2903C	Mod PA WCDMA 1920-1980 MHz	1237-1765	P HA CAL [for band 1]
N3501	IC Amplifier 500mA	1203-4594	P HA
N3600	ASIC Tjatte3 CSP20	1000-0198	S HA ⇒7
N5400	MEMS Compass Analog	1228-7182	P HA ⇒9
N5500	IC Optical Proximity Sensors	1237-6823	P HA
N5600	Opto Light Sensor	1237-6820	P HA/ST ⇒10
N7600	IC WL-CSP 6x4 balls	1212-7979	P HA
N8100	Mod Radio WLAN/BT/FM	1237-3816	P BGA
N8101	Mod PA WLAN 3.0x3.0x0.5mm	1239-7071	P HA ⇒1
N8102	IC Vreg	1232-0901	P HA
N8401	IC Amp	1218-0656	P HA
R2832	Filter 600ohm 0402 0.3A 0.85ohm Bead	1000-2621	P HA ⇒1
R2833	Filter 600ohm 0402 0.3A 0.85ohm Bead	1000-2621	P HA ⇒1
R2837	Inductor Chip	1203-8594	P HA
R2839	Inductor Chip	1203-8594	P HA
R3611	Resistor 15.0 kOhm	1000-4149	S HA ⇒8
R3616	Resistor 33.0 kOhm	1000-4154	S HA ⇒8
R5200	Resistor 2.2 kOhm	1000-4131	P HA ⇒11
R5201	Resistor 2.2 kOhm	1000-4131	P HA ⇒11
R5202	Resistor 0.0 Ohm +/-5% 50.0 mW K0201	1000-0181	P HA ⇒12
S5203	Side push switch	1000-7670	P HA/ST+BH ⇒13
S5204	Side push switch	1000-7670	P HA/ST+BH ⇒11
S5205	Switch	1242-0913	P HA/ST+BH ⇒21
S5207	Side push switch	1000-7670	P HA/ST+BH
V1305	IC Switch	1244-3833	P HA ⇒14
V3100	Diode Protection 0.7 V SOD-882	1201-2253	S HA ⇒4
V3502	Dual ESD protection diode	1000-0399	P HA ⇒6
V3503	Diode	1000-0282	P HA
V3504	Diode	1000-0282	P HA
V3505	Diode	1000-0282	P HA
V3506	Diode	1000-0282	P HA
V4100	Trans P-ch FET WDFN6	1200-1780	S HA ⇒15
V5107	LED Multi-color	1220-0747	S HA/ST ⇒16
V5500	LED	1223-3002	P HA/ST ⇒10
V5501	Diode	1223-2957	P HA/ST ⇒17
V7601	Trans N-ch FET 1.6x1.6x0.55mm	1235-2707	P HA



## Component Replacement (elec)

Position	Component	Part no.	Comments
X1006	Conn Leaf Spring	1238-5878	P HA
X1007	Conn Leaf Spring	1238-5878	P HA ⇒13
X1008	Conn Leaf Spring	1238-5878	P HA
X1010	Conn Leaf Spring Plug 1p	1238-5861	P HA
X1300	Connector Battery 5p	1232-1629	S BGA
X2200	Conn USB micro 5p	1244-5174	S BGA ⇒18
X2801	Conn Coax Plug 6p RF-probe contact	1203-9688	S BGA ⇒19
X2802	Conn Leaf Spring	1238-5859	S HA
X2803	Conn Leaf Spring	1238-5878	S HA ⇒20
X2804	Conn Leaf Spring	1238-5878	S HA ⇒20
X3500	Conn Leaf Spring	1238-5878	S HA ⇒5
X3503	Conn Leaf Spring	1238-5878	S HA ⇒5
X4000	Conn SIM Card	1200-9596	S BGA
X4100	Conn MicroSD reader	1241-0946	S BGA ⇒21
X5303	Conn BtB 20p	1200-7140	S BGA ⇒22
X7002	Conn ZIF 25p	1221-6481	P BGA ⇒23
X7301	Conn BtB	1200-2529	P BGA
X8401	Conn Coax Receptacle 0p test switch	1221-6477	S BGA ⇒4
X8420	Conn Leaf Spring	1238-5878	S HA ⇒3
X8421	Conn Leaf Spring	1238-5878	S HA ⇒3
X8422	Conn Leaf Spring	1238-5878	S HA ⇒24
X8423	Conn Leaf Spring	1238-5878	S HA ⇒24
Z2200	Filter Ceramic 100.0 MHz	1235-3014	S HA ⇒4
Z2800C	Filter 0.0	1236-7960	P HA
Z8001	Filter SAW 2,4 GHz 1.35*1.05*0.5	1217-3397	P HA ⇒1
Z8401	Filter SAW 1,57 GHz	1207-2628	P HA
Z8403C	Filter 1.575 GHz	1236-2944	P HA
Z9800	Filter 100.0 MHz	1224-6060	P HA ⇒1
Z9801	Filter 100.0 MHz	1224-6060	P HA ⇒1



## 2 Component Placing

To access the Component Placing document, double-click the icon below.  
Applicable for on-screen viewing only – icon not shown on hard-copies.





## 3 Repair Actions

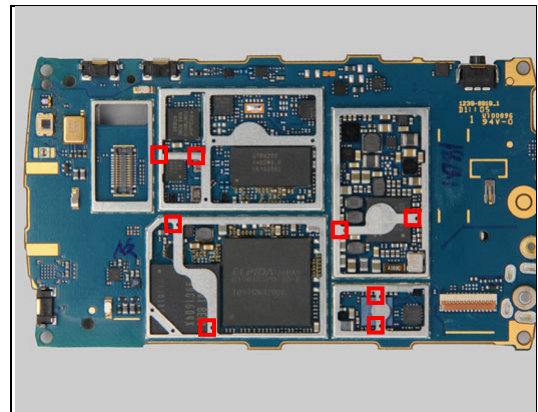
**Refer to the Tools Catalogue/Matrix for information about equipment required for PBA repair!**

### 3.1 Shield Can Fence Modifications

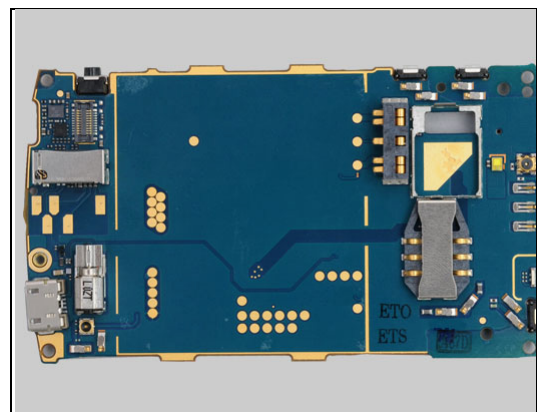
Refer to the pictures below of the primary and secondary sides for repairs that require the Shield Can Fence to be modified:

- the shield can lid has to be removed
- the red symbols show where the frame should be cut to enable rework
- after rework the height of the frame should not be affected
- it should not be visible that rework has been carried out when the lid has been mounted

*Primary side*



*Secondary side*







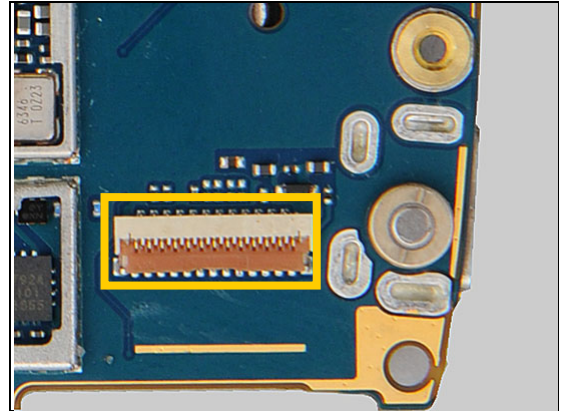
## Repair Actions

### 3.2 Additional Repair Info

1

B3501, N8101, R2832, R2833, Z8001, Z9800, Z9801

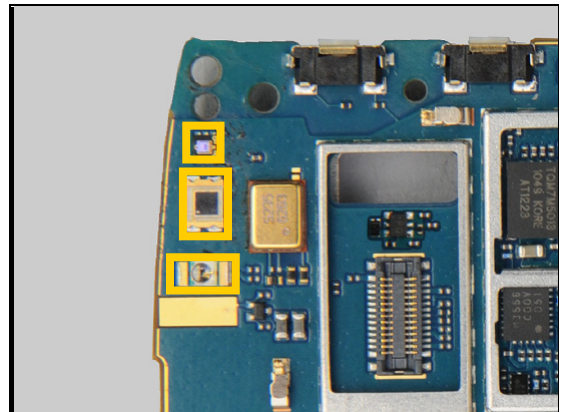
*Protect the ZIF connector with capton tape.*



2

B3502

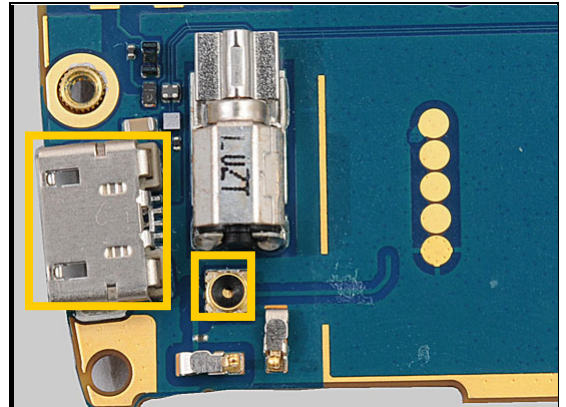
*Protect the Diode, the Sensor and the LED with capton tape.*



3

B5100, X8420, X8421

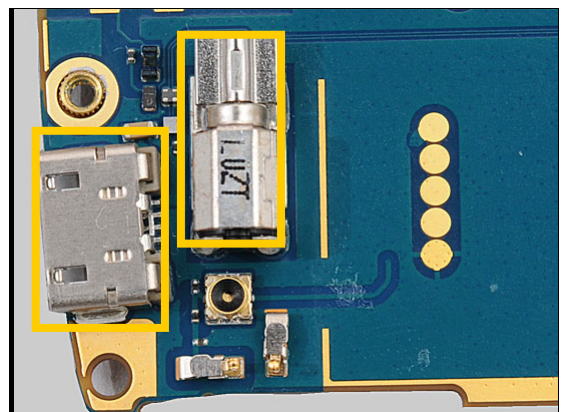
*Protect the Micro USB connector and the Coax connector with capton tape.*



4

C2200, L3100, L3605, N2200, V3100, X8401, Z2200

*Protect the Micro USB connector and the Vibrator with capton tape.*



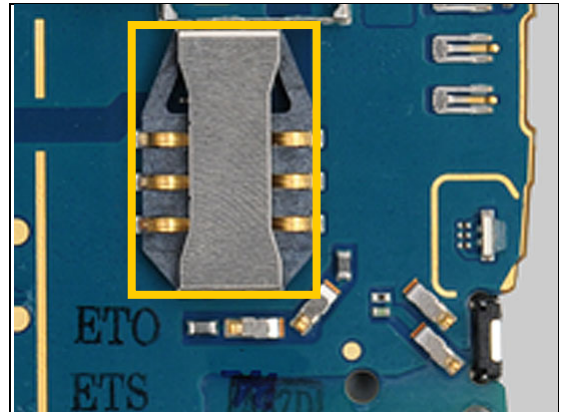


## Repair Actions: Additional Repair Info

5

L3500, L3501, X3500, X3503

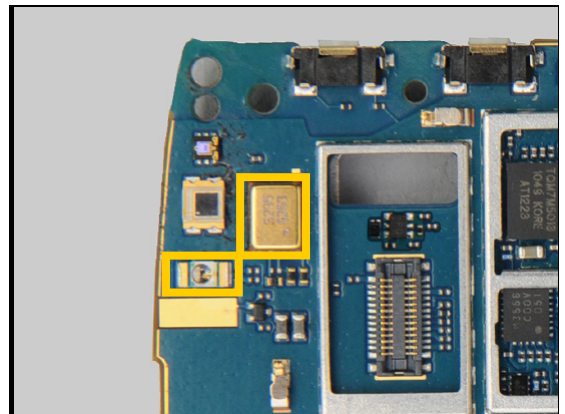
**Protect the SIM card reader with capton tape.**



6

L3504, L3505, L3506, V3502

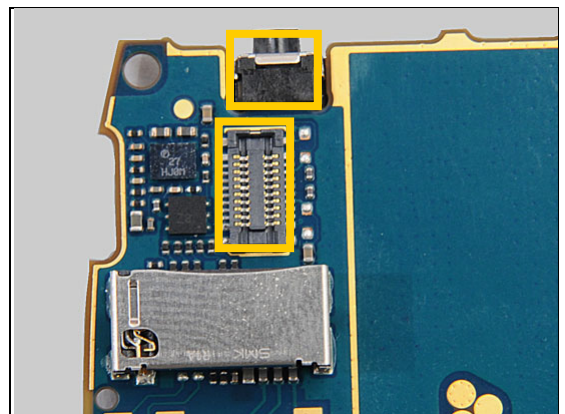
**Protect the LED and the Microphone with capton tape.**



7

L3600, L3601, N3600

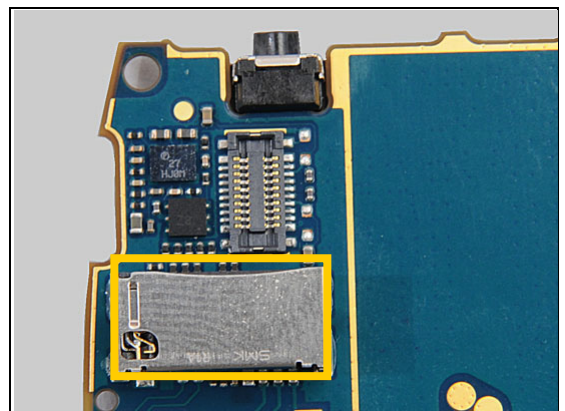
**Protect the switch and the BtB connector with capton tape.**



8

L3602, L3603, L3604, R3611, R3616

**Protect the Micro SD reader with capton tape.**



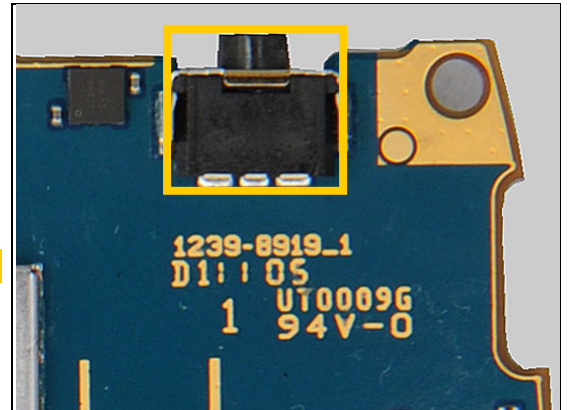


## Repair Actions: Additional Repair Info

9

N5400

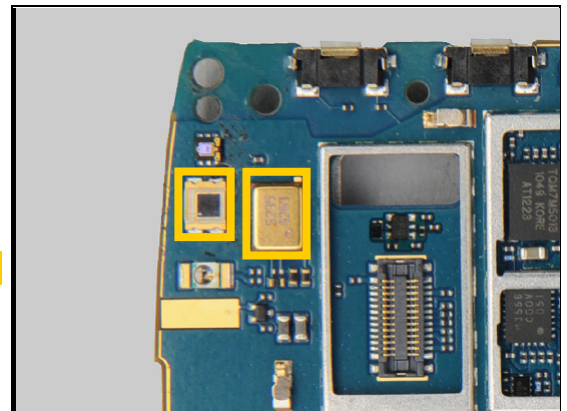
**Protect the switch with capton tape.**



10

N5600, V5500

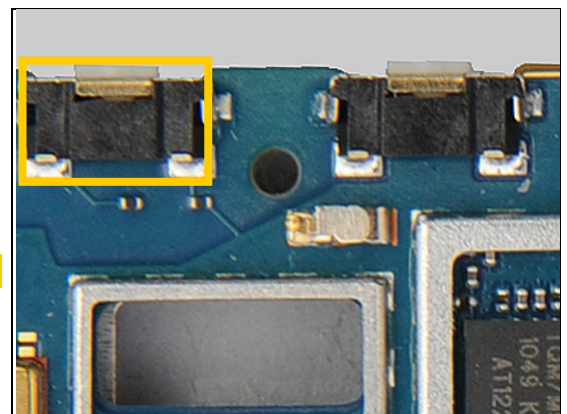
**Protect the Diode and the Microphone with capton tape.**



11

R5200, R5201, S5204

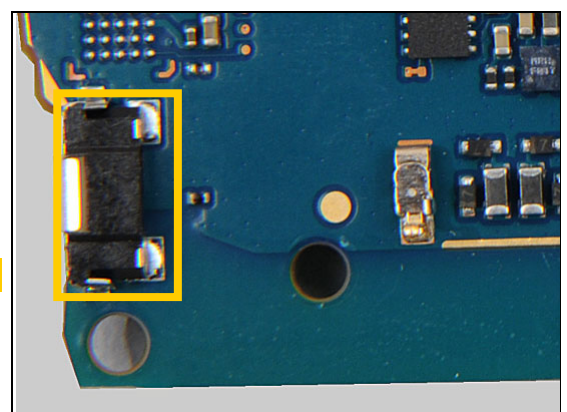
**Protect the switch with capton tape.**



12

R5202

**Protect the switch with capton tape.**





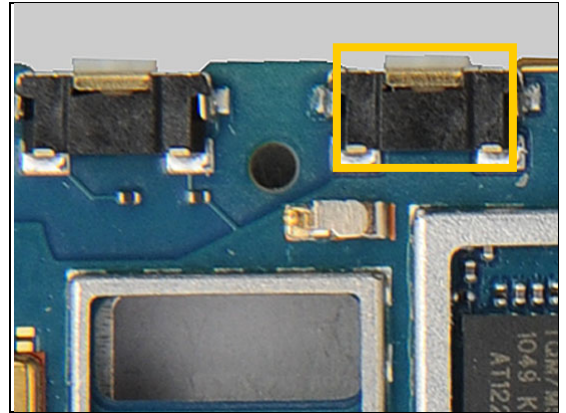


## Repair Actions: Additional Repair Info

13

S5203, X1007

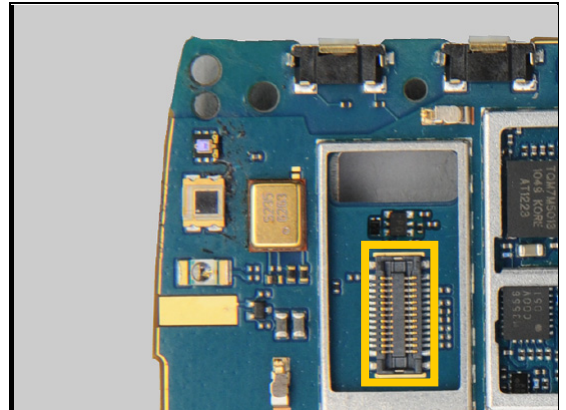
*Protect the switch with capton tape.*



14

V1305

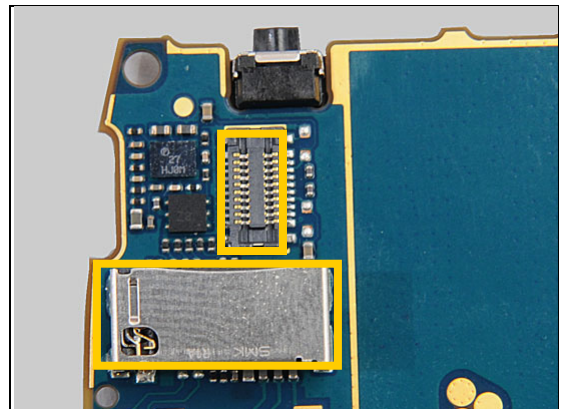
*Protect the BtB connector with capton tape.*



15

V4100

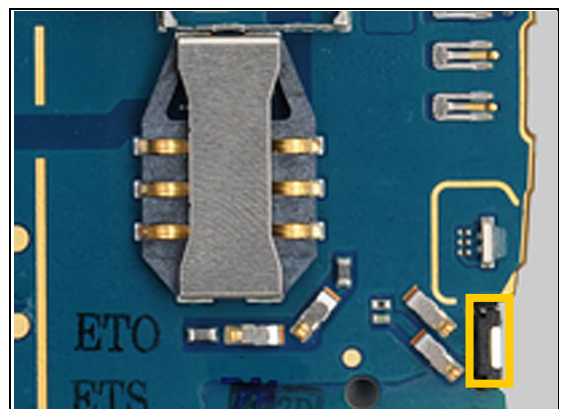
*Protect the BtB connector and the Micro SD reader with capton tape.*



16

V5107

*Protect the switch with capton tape.*



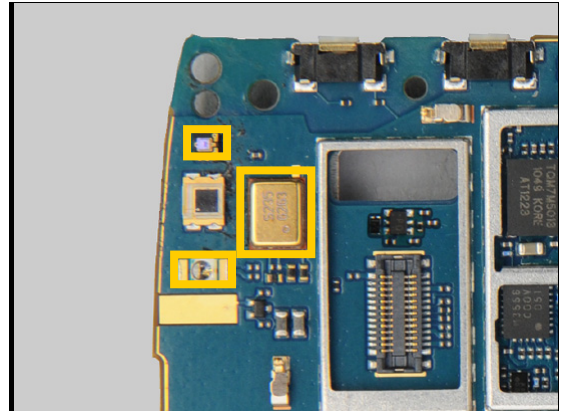


## Repair Actions: Additional Repair Info

17

V5501

**Protect the LED, the Sensor and the Microphone with capton tape.**

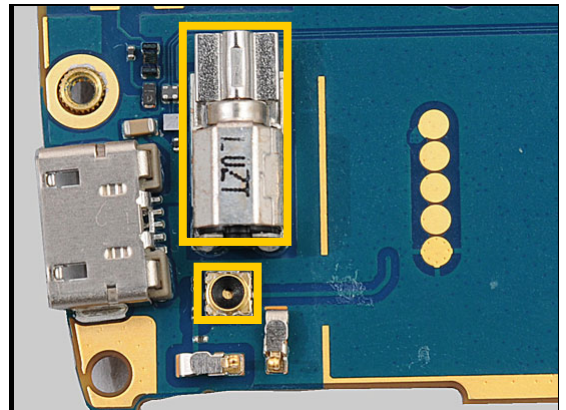


18

X2200

**Protect the Vibrator and the Coax connector with capton tape.**

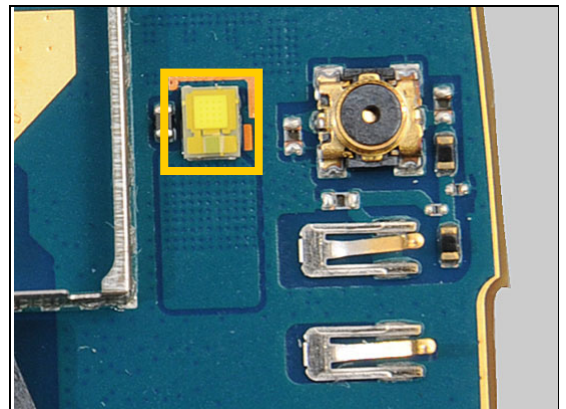
**Important! When X2200 has been replaced shall Mic B3501 also be replaced with a new one.**



19

X2801

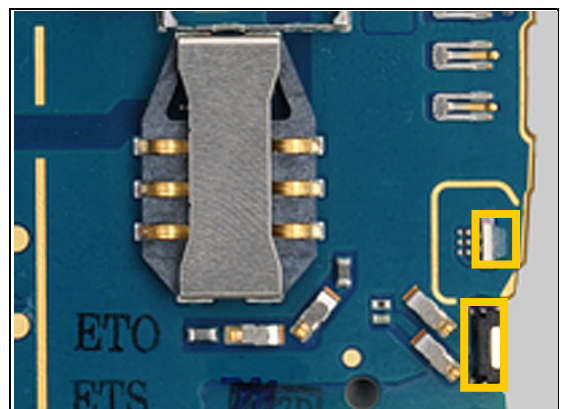
**Protect the LED with capton tape.**



20

X2803, X2804

**Protect the switch and the LED with capton tape.**



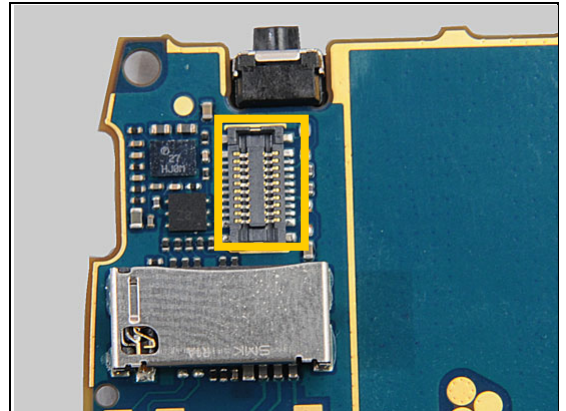


## Repair Actions: Additional Repair Info

21

S5205, X4100

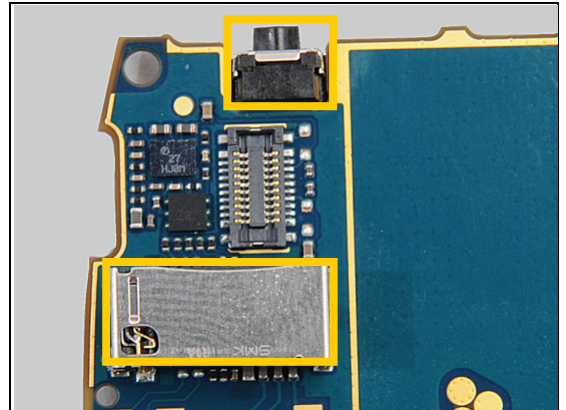
**Protect the BtB connector with capton tape.**



22

X5303

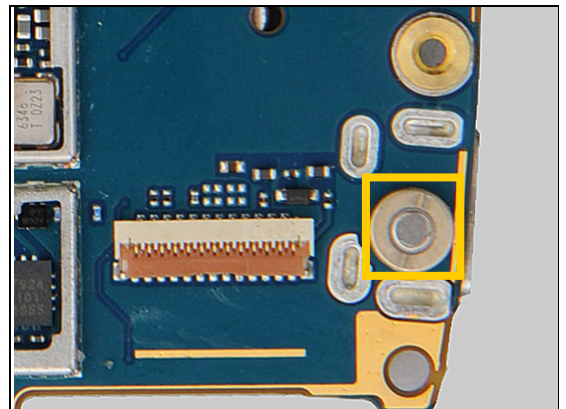
**Protect the switch and the Micro SD reader with capton tape.**



23

X7002

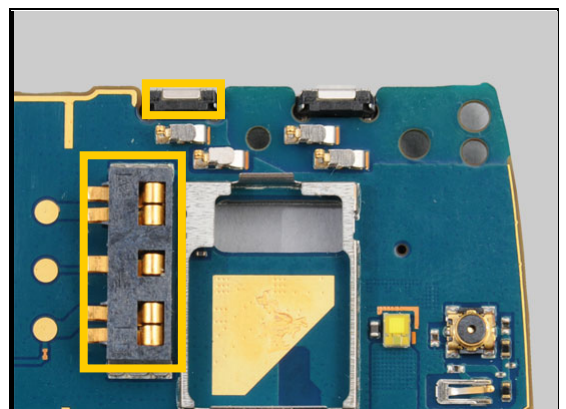
**Protect the Microphone with capton tape.**



24

X8422, X8423

**Protect the switch and the Battery connector with capton tape.**





## 4 Revision History

Rev.	Date	Changes / Comments
1	2011-July-15	Initial release
2	2011-Sept-30	Added replacement instruction for X2200 in chapter 3.2
3	2011-Nov-22	One new commercial model included – S51SE Added 1243-1810 for S51SE