

Service Repair Documentation

Level 2 – CL75



Release	Date	Department	Notes to change
1.0	23.08.2005	COM MD CC GRM T	New document

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Introduction

This Service Repair Documentation is intended to carry out repairs on Siemens repair up to level 2. The described failures shall be repaired in Siemens authorized local workshops only.

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 CL75 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 CL75 related Customer Care Information

If you have any questions regarding the repair procedures or technical questions spare not hesitate to contact our technical support team in Kamp-Lintfort, Germany:

Tel.: +49 2842 95 4666
Fax: +49 2842 95 4302
e-mail: [st-support@ klf.siemens.de](mailto:st-support@klf.siemens.de)

1. GPRS (General Packet Radio Service)

GPRS is a new non-voice value added services that allows information to be sent and received across a GSM mobile telephone network. It supplements today's Circuit Switched Data (CSD) and Short Message Services (SMS). GPRS involves overlaying a packet based air interface on the existing circuit switched GSM network. This gives the option to use a packet-based data service. The information is split into separated but related "packets" before being transmitted and reassembled at the receiving end. Theoretically, maximum speeds of up to 171.2 kilobits per second (kbps) are achievable with GPRS using all eight timeslots at the same time. This is about 3 times as fast as the data transmission speed possible over today's fixed telecommunications networks and 10 times as fast as current Circuit Switched Data services on GSM networks.

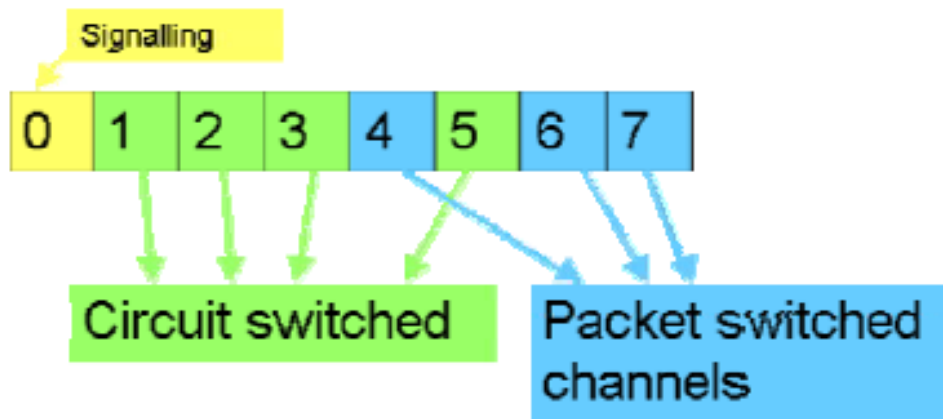


Figure1. Example of GPRS data transmission

Example: Cell with 1 Frequency channel:

1 physical channel for signaling, 4 physical channels for Circuit switched and 3 physical channels for Packet switched.

2. Key Features

Feature	Description
Physical Data	<ul style="list-style-type: none"> • Dimensions: 87 X 44 X 23 mm • Weight: 90 g
Bands	<ul style="list-style-type: none"> • Triple band E-GSM 900/ GSM 1800 / GSM1900 • GPRS Multi Class 10
Battery	<ul style="list-style-type: none"> • Li-ion Battery Pack • Nominal Voltage : 3.7 V • Nominal Capacity :750 mAh • Power Input : 1.8 A (0.6 ms) / 0.1A(4 ms)
Stand-by Time	<ul style="list-style-type: none"> • Up to 220 hours
Talk Time	<ul style="list-style-type: none"> • Up to 180 minutes
SIM Card	<ul style="list-style-type: none"> • Small ("Plug In") 3V SIM card (Phase II) • To insert SIM card, the battery pack must be removed.
GSM Antenna	<ul style="list-style-type: none"> • A triple band PIFA antenna will be an integral part of the mobile phone.
Receive Sensitivity	<ul style="list-style-type: none"> • EGSM: -102 dBm • PCS: -102 dBm <p>(Specification, static & with fading) Measurement values are referred to the external antenna connector.</p>
Transmit Power	<ul style="list-style-type: none"> • EGSM: nominal 2W (Class 4) • PCS: nominal 1W (Class 1)
Speech Codec	<ul style="list-style-type: none"> • Triple Rate (HR/FR/EER) and Adaptive Multi rate are available as standard
Temperature Range	<ul style="list-style-type: none"> • -10°C to +55°C (Normal operation) • -30°C to +85°C (Storage capability)
Display	<ul style="list-style-type: none"> • Main LCD: 1.8"; 128x160 262K color TFT LCD • Sub LCD: 1.0"; 96x64 color LCD • Illumination: white LED
Keypad	<ul style="list-style-type: none"> • 12 digit keys (0-9, #, *) • 6 function keys (RSK/LSK/Send/End/Display/Extra) • 5 way Navi-Key • 4 side keys (Volume +, -/Camera/Hands free • Illumination color: blue LED
Internet Access	<ul style="list-style-type: none"> • WAP 2.0 dual stack
Camera	<ul style="list-style-type: none"> • Integrated camera with attachable FPC • Resolution: 30K (VGA)
Connectivity	<ul style="list-style-type: none"> • Serial and IrDA
Video Support	<ul style="list-style-type: none"> • Recording, playback, packet video, 3GPP; H.263, MPEG4
Sounds Support	<ul style="list-style-type: none"> • AAC, AMR-NB, SMAF, SP-Midi, WAV AD-PVM, 40chords polyphonic ring tones (MA3)

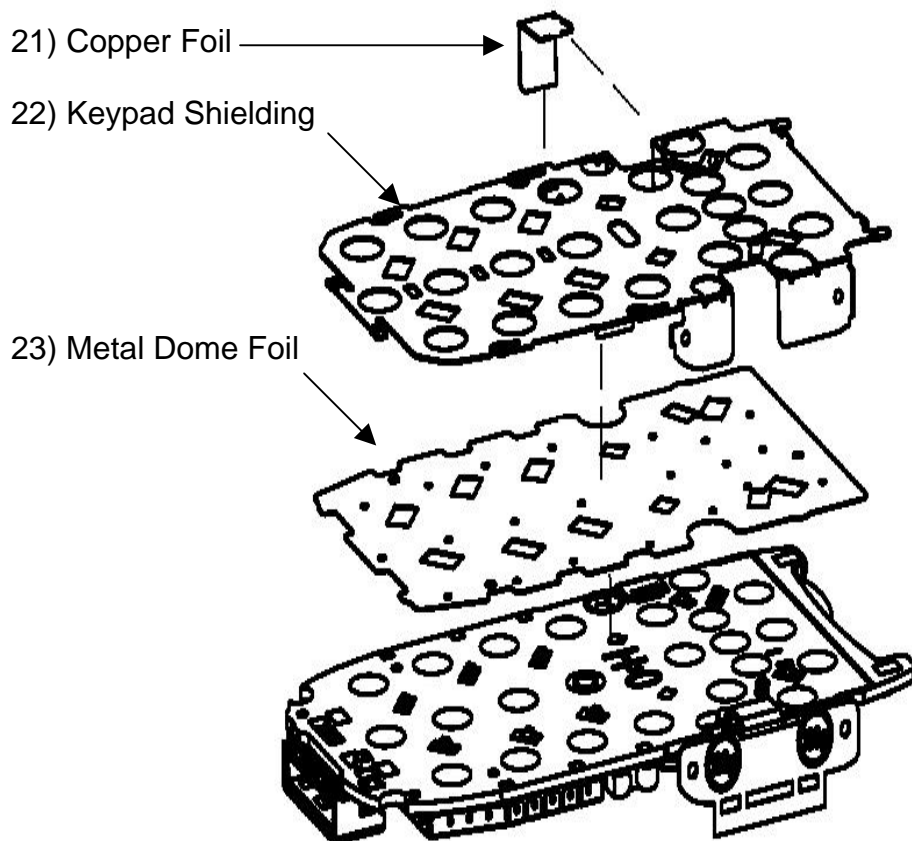
3. Accessories

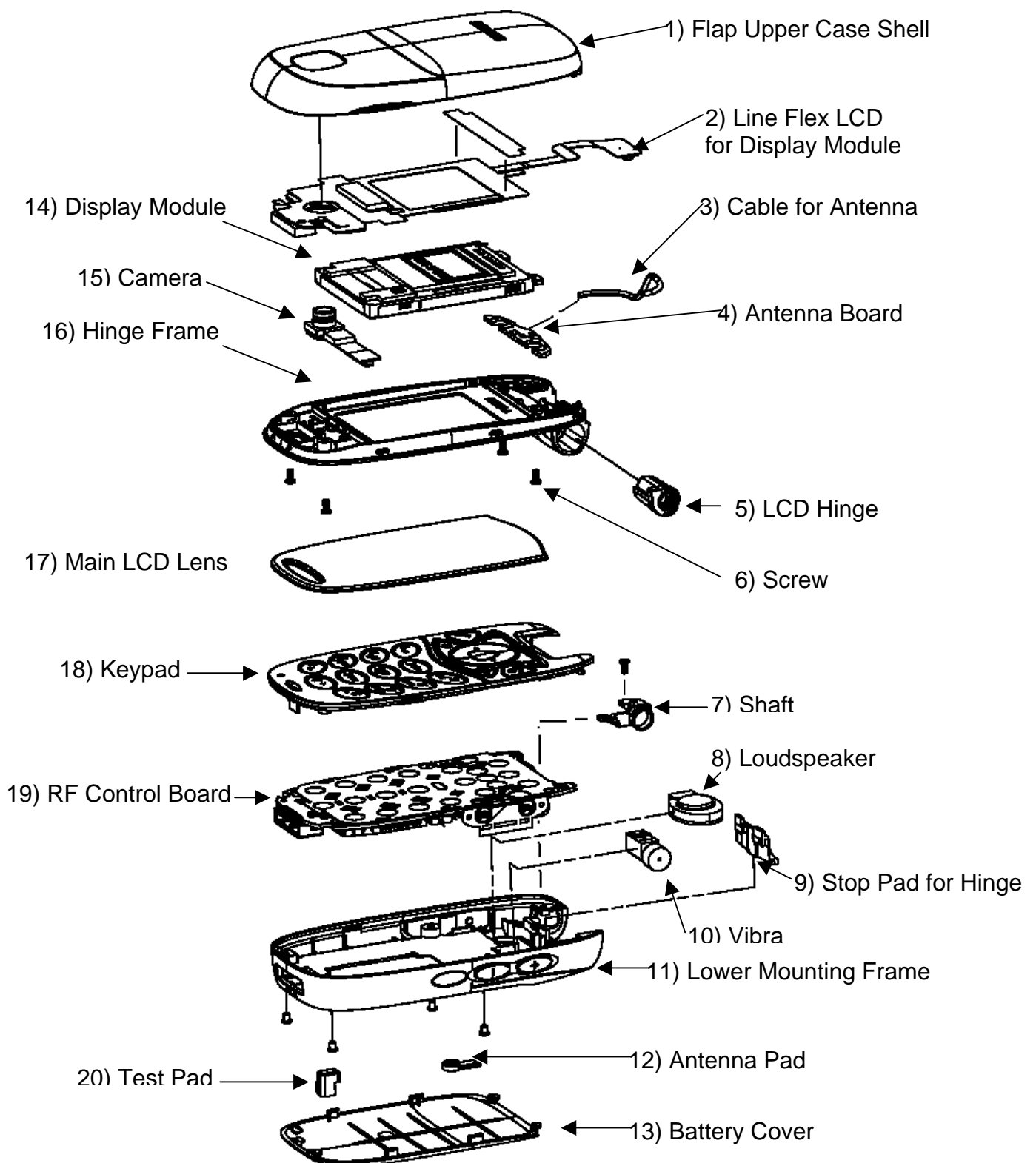
For CL75, the following accessories will be available.

Description	Part number
Battery	TBD
Standard Charger	TBD
Travel Charger US	L36880-N5301-A112-*
Travel Charger EU	L36880-N5601-A104-*
Travel Charger UK	L36880-N5601-A105-*
Mono Headset Standard	L36880-N5601-A107-*
Data Cable USB/USB	L36880-N6501-A102-*

Note: Visit the Communication Market for updated accessories:
[https:// communication-market.siemens.de/](https://communication-market.siemens.de/)

4. Exploded View





Ref. Nr.	Description	Part Number	R. Level	Qty
1	Flap Upper Case Shell CL75	C39158-A166-A25	1	1
2	Line Flex LCD for Display Module CL75	S30880-Q1550-C1	1	1
3	Cable for Antenna CL75	V30146-A1026-D1	1	1
4	Antenna Board CL75	S30880-Q1550-B1	1	1
5	LCD Hinge CL75	C39158-A166-A28	1	1
6	Screw M1,6-3,0 CL75	C39158-A166-A29	1	9
7	Shaft CL75	C39158-A166-A16	1	1
8	Loudspeaker CL75	V39104-F3090-X926	1	1
9	Stop Pad for Hinge CL75	C39158-A166-A27	1	1
10	Vibra-Alert CL75	C39453-Z5-C359	1	1
11	Lower Mounting Frame CL75	C39158-A166-A15	1	1
12	Antenna Pad CL75	C39158-A166-A18	1	1
13	Battery Cover CL75	C39158-A166-A12	1	1
14	Display Module CL75	V24851-Z1508-A149	1	1
15	Camera Module CL75	C39453-Z5-C360	1	1
16	Hinge Frame CL75	C39158-A166-A24	1	1
17	Main LCD Lens CL75	C39158-A166-A22	1	1
18	Keypad CL75	C39158-A166-A5-2	1	1
19	RF Control Board	S30880-Q1550-A1	2	1
20	Test Pad CL75	C39158-A166-A17	1	1
21	Copper Foil for Side Key CL75	C39158-A166-A21	2.5	1
22	Keypad Shielding CL75	C39158-A166-A19	2.5	1
23	Metal Dome for Side Key CL75	C39158-A166-A20	1	1
	LED SMD (2P) BLUE	V20840-L2152-D670	2.5	10
	Hall Sensor	V20810-U6207-D670	2.5	1
	Backup Battery	V39328-F2705-Z2	2.5	1
	Battery Connector	C39334-Z97-C486	2.5	1
	Speaker Connector	C39334-Z97-C487	2.5	1
	Microphone	C39254-Z6-C139	2.5	1
	Slim Lumberg Connector	C39334-Z97-C488	2.5	1
	IrDa	V20810-U6208-D670	2.5	1

5. CL75 Disassembly

Note: ESD concept; the internal circuits will be more susceptible to ESD during the housing exchange. The construction of the internal block is designed, in the best possible way, to protect the circuit against sparks.

The keypad must be completely closed to prevent any occurrence of an ESD disruptive discharge.

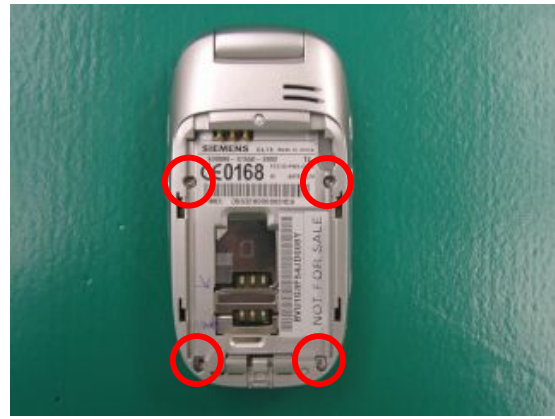
It is a requirement for the service personnel to observe ESD protection rules while performing service on CL75.



Name	Part Number
Tweezers	XXXXXXXXXXXXX
Opening tool	XXXXXXXXXXXXX
Hinge Tool CF62	F30032-P371-A1
Torque-Screwdriver	F30032-P228-A1



Open battery cover and remove test and antenna pad.



Unscrew 4 screws on base case.



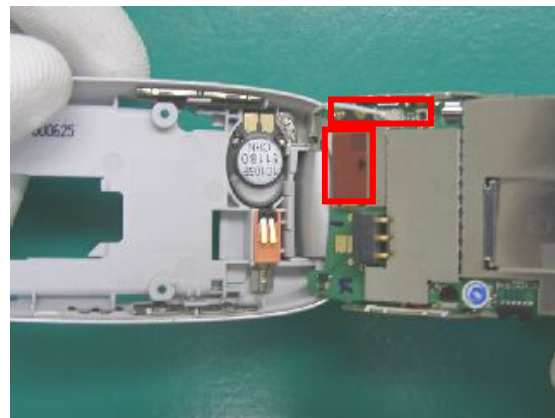
Insert the opening jig into the key set and slide along the sides.



Carefully separate 3 hooks of the key set.



Push the main PCB from SIM connector and carefully lift.



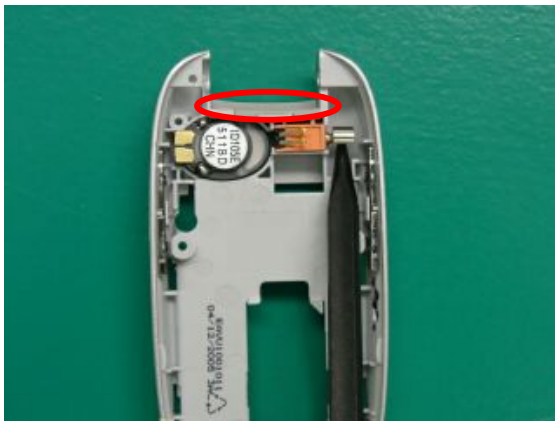
Unplug LCD and antenna cable to take out the main PCB.



Press the LCD hinge and pull LCD module upward **(Using CF62 hinge disassembly tool)**



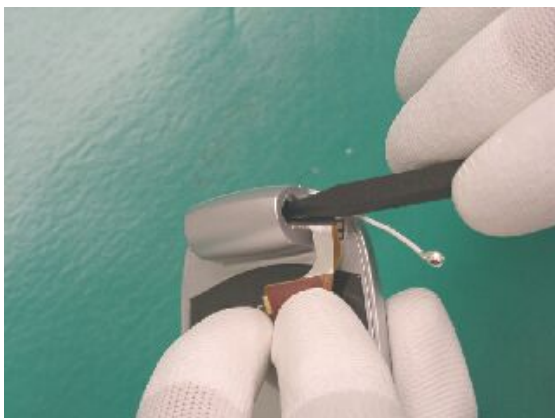
Remove 1 screw on Shaft to fully dismount upper assembly



Remove Vibrator, speaker and stop pad



Take out completely LCD module and remove LCD Shaft



Push out LCD hinge from one side



Insert the jig into the gap on the receiver and lift LCD lens carefully



Insert the Jig between LCD base case and LCD lens and slide around to remove LCD lens



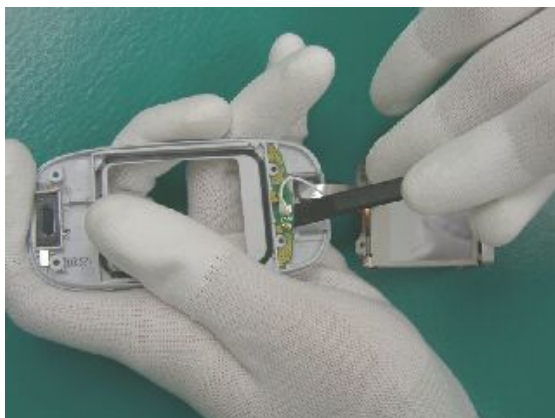
Unscrew 4 screws on LCD base case



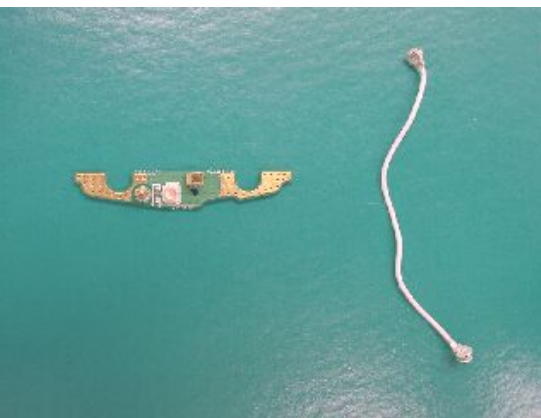
Insert the jig into the gap and slide around to dismount LCD base case



Slight click LCD top case and remove LCD top case



Lie LCD backward and dismount antenna board from LCD top case



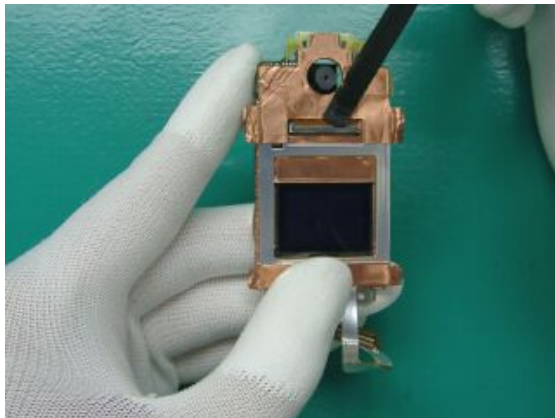
Antenna cable can be separated from antenna board



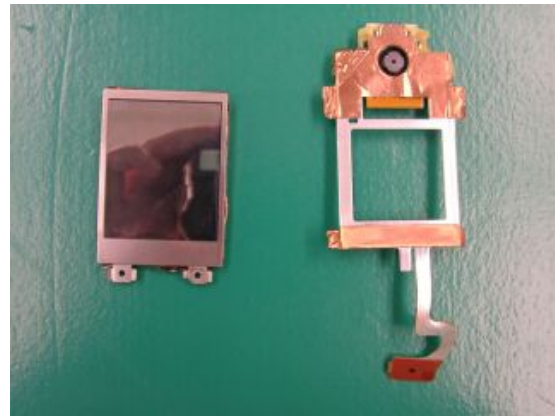
Swirl LCD cable and pull out through the hole



Disassemble CMOS module



Lift the both sides of LCD copper and open LCD cable connector

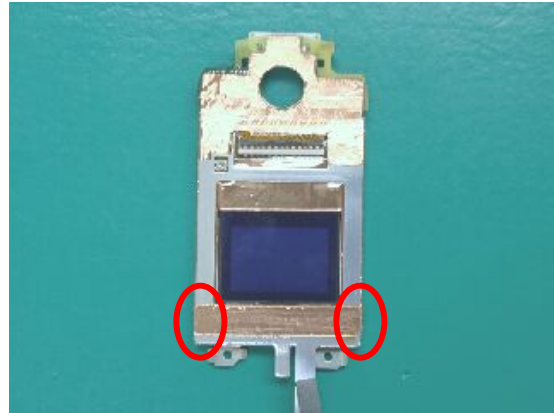


Separate LCD module and cable

6. CL75 Reassembly



Insert LCD FPC into LCD module and close connector cover



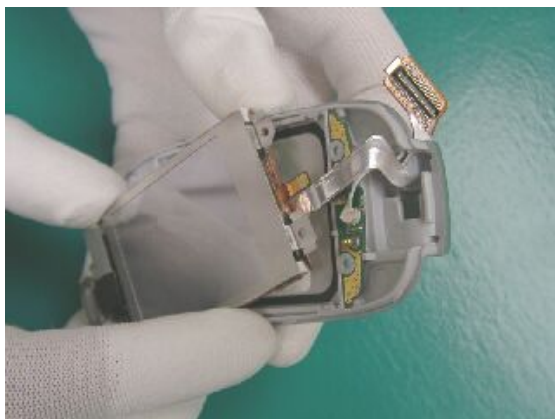
Stick the copper on FPC and make sure the sides are well tapped to LCD shielding



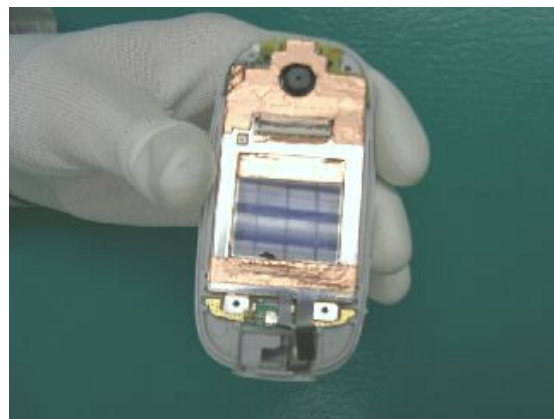
Mount CMOS Module



Assemble antenna cable and fix in LCD base case



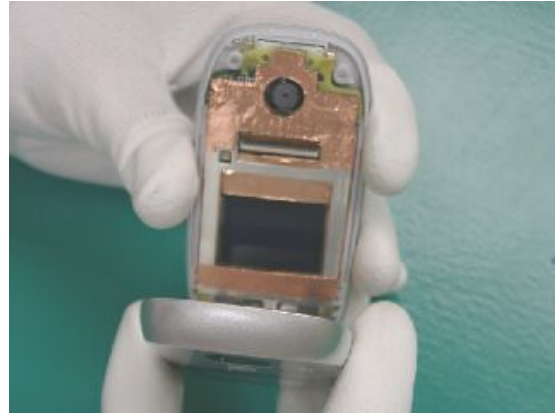
Thread the LCD cable into LCD base case



Turn over LCD module and posit on LCD top case



Adjust antenna cable in front of LCD cable



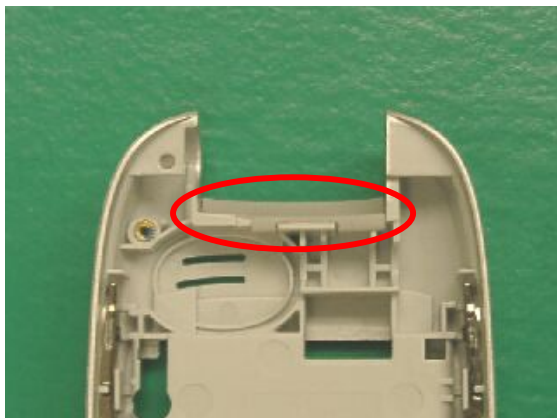
Assemble LCD Top case



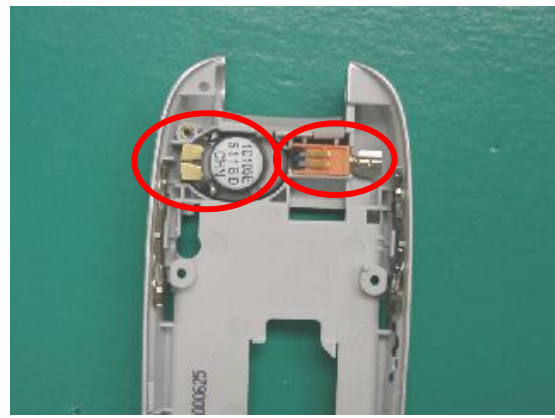
Press along the sides and tighten 4 screws on LCD base case (T3, 7cNm)



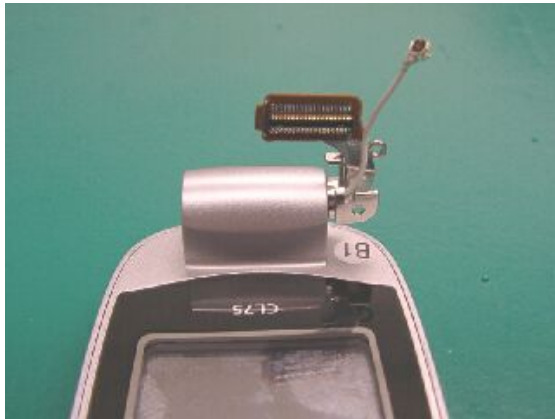
Stick LCD lens



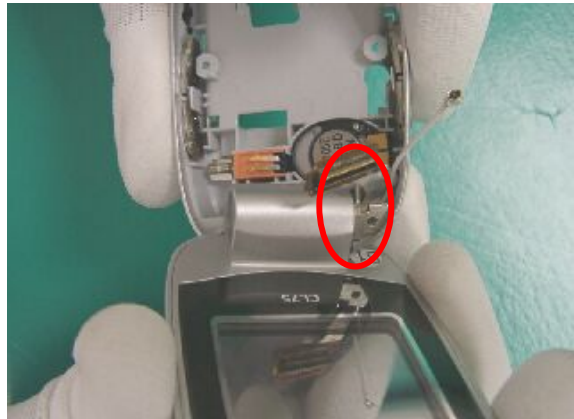
Stick stop pad on base case



Assemble speaker and vibrator on the base case



Assemble LCD shaft



Fix the shaft in the base case



Tighten 1 screw on shaft
(T3, 7cNm)



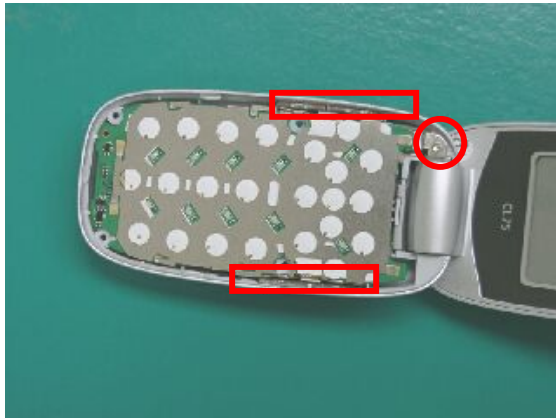
Align left side of LCD case, insert LCD hinge on right side and press to fix LCD case into base case



Lock antenna cable to PCB



Plug in flex cable and arrange antenna cable to fix along the side of speaker spring



Assemble PCB on the base case and tighten 1 screw on PCB , **be careful not to bend the side FPC**



Assemble key set by inserting top side first

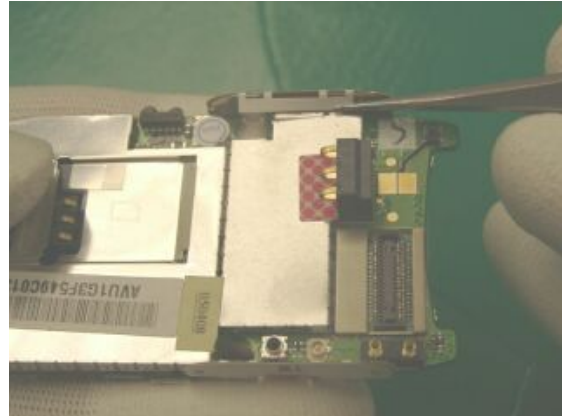


Tighten 4 screws and insert antenna and test pad to the holes of the base case **(T3, 7cNm)**

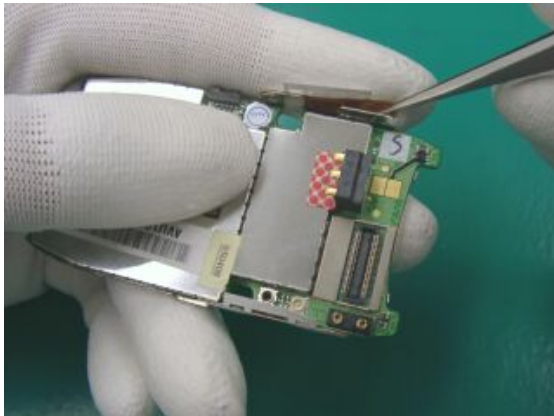
7. Key shielding Disassembly



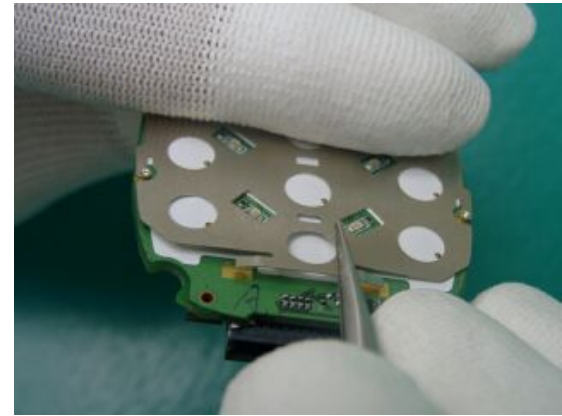
Remove side key coppers.



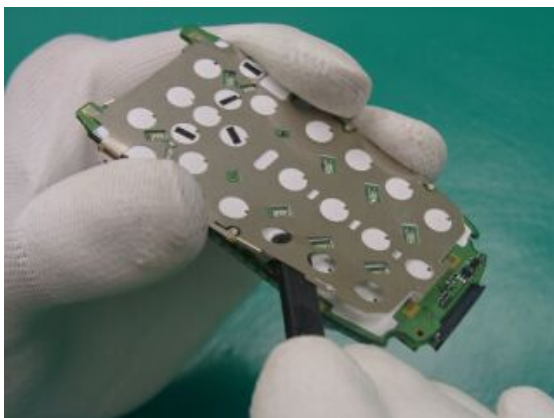
Lift both side key portions sticking on the shielding.



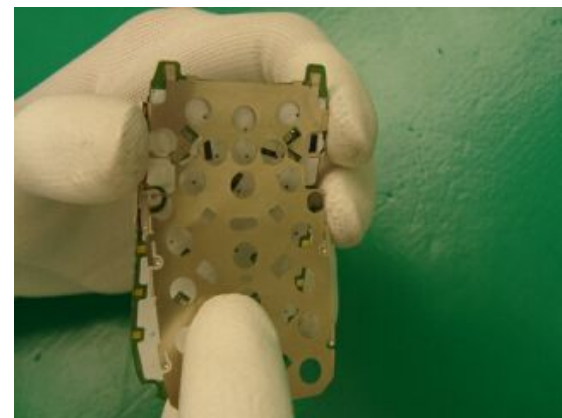
Separate both side keys and shielding carefully. **Don't lift side key horizontally, which may cause inner trace broken.**



Create gap between keypad shielding and metal dome from bottom.

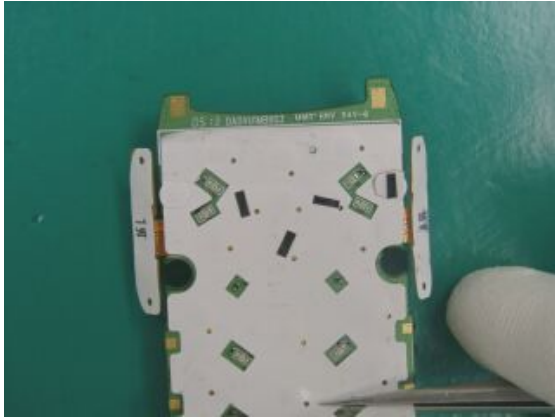


Tape glue is under all keypad shielding. Separate keypad shielding and metal dome carefully.

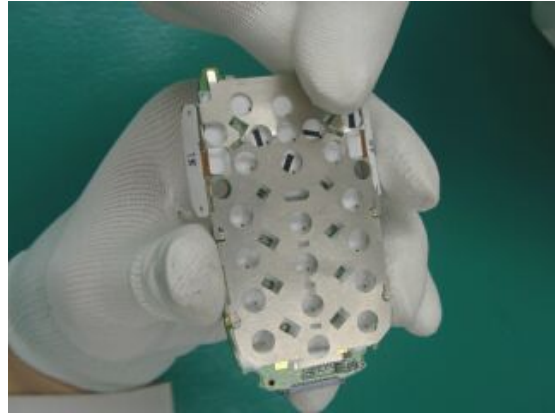


Dismount keypad shielding. Don't lift side key horizontally, which might cause inner trace broken.

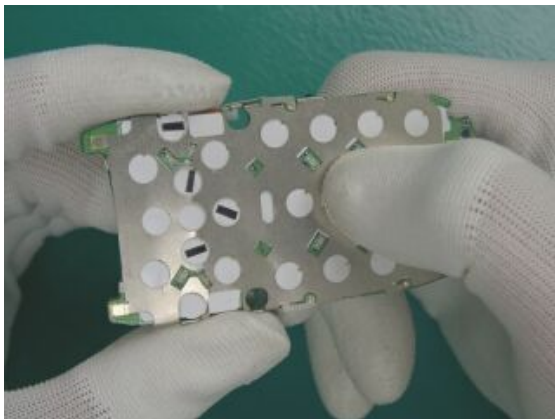
8. Key shielding Reassembly



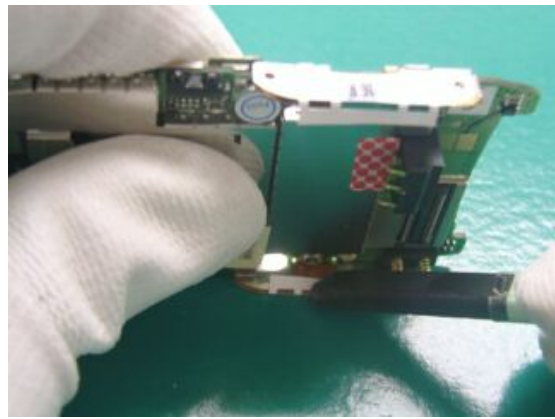
Stick metal dome along the white base line on top.



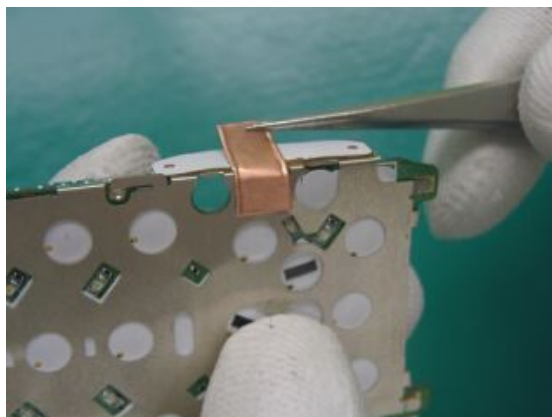
Cover keypad shielding and press carefully.



Don't lift side key horizontally, which may cause inner trace broken.

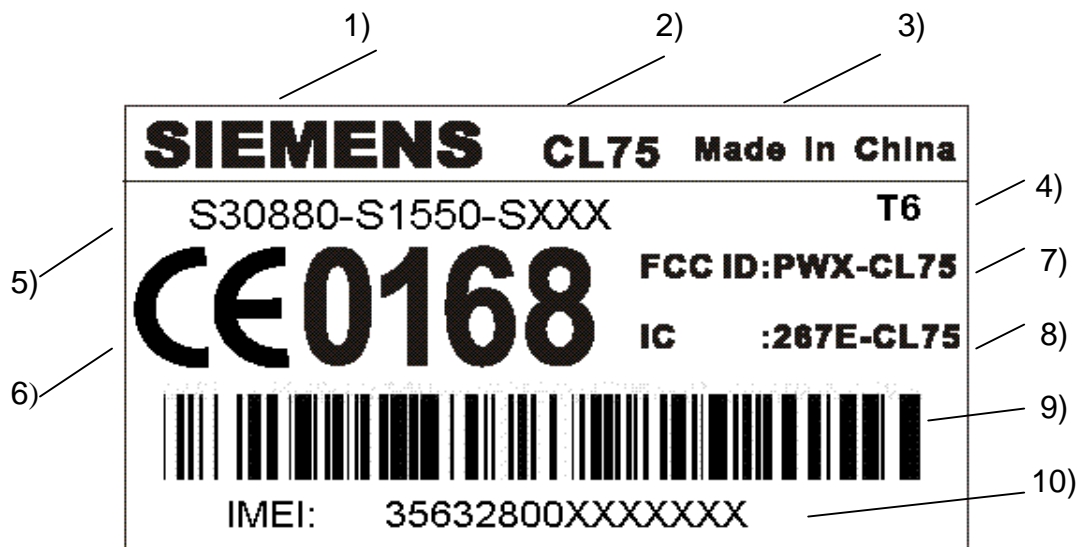


Stick both side keys to keypad shielding.



Stick side key copper.

9. IMEI Label Description



10) 35632800 Typ-Approval Code TAC
10) XXXXXXXX Current serial number (6 digit), Assigned by PICS

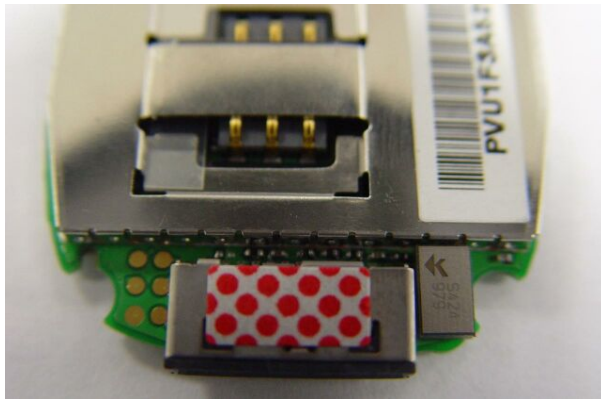
- 1) Corporate logo :
- 2) Product name :
- 3) Made in China :
- 4) Code of date : (See table below)
- 5) Code number of Transceiver
- 6) CE-identification :
- 7) USA FCC (Federal Communication Commission) approval identification
- 8) See 7)
- 9) barcode IMEI-No

Explanation of Code of date:

Year	Date Code	Month	Date Code
2003	R	January	1
2004	S	February	2
2005	T	March	3
2006	U	September	9
2007	V	October	O
2008	W	November	N
2009	X	December	D

10. Water Indicator

To identify if the mobile is moistened, a water indicator is stuck on IO connector. When the moisture is over the standard, the background of the label will be turn from white to pink and the spots pattern will become blurred.



Water indicator (stuck on the IO connector)



Water indicator (can be seen through the base case)

- ☞ The position of the Water-Indicator had been defined the way that it is possible to read out the status of the water-Indicator within level0. In case that a walk-in shop has been used as service-channel; the end customer shall be confronted directly – if colour of Water-Indicator has turned to pink! In a further step the main board shall be checked for any signs of oxidation. The result shall be used as proof of evidence towards the end customer. In that case the mobile phone shall not be accepted as in-warranty, but shall be considered as **Damage Caused by customer.**