Level 2 Repair Manual

XELIBRI-X4

Issue	Date	Author	Description
0.9	11.03.02	Noblet	First release
1.0	17.04.03	Lerner	Layout update and 1st official release
1.1	22.05.03	Lerner	Update on page 12: different antennas for X2 and X4

Table of Contents:

1 TECHNICAL FEATURES OF THE XELIBRI

Feature	Description
Frequency	EGSM-900 GSM-1800
Power	EGSM-900: Class 4 (2 W) GSM-1800: Class 1 (1 W)
Antenna	Integrated, built in patch antenna SAR for Lunar <= 1. W/kg / Target 0.8 W/kg in 1 g and 0.7 W/kg target 0.5 W/kg in 10 g SAR for Jedi <= 1.2 W/kg / Target 0.8 W/kg in 1 g and 0.9 W/kg target 0.5 W/kg in 10 g.
Telephony	Coding RPE/LPC with LTP HR, FR, EFR
SMS	Class 0, 1, 2 GSM TS 7.05 Short Message MT / MO Cell Broadcast Concatenated Messages / Picture Messages
SIM Appl. Tool Kit	refer to chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**
Keypad	0 to 9; *; # 4-contact navigation element (2 soft keys + up / down) refer to MMI specification
Display	refer to MMI specification, 101 x 65 pixels B/W
Illumination	Supported
Physical Details	Target weight: 80g temperature range: Normal operation (acc. 3GPP TS 51.010-1): –10°C to +55°C Storage: –40°C to +85°C according to Siemens design specification
Interfaces	Slim Lumberg for accessory support
Battery type	exchangeable Li-Ion 600 mAh min 200h Standby and talk time of 3H30 at level 10 and DTX = off in EFR
Charging	max. 6 h for empty batteries (0 – 5% capacity) charging of deeply discharged battery possible
Melody	Embedded: 15 polyphonic (32 voices)
Phone Book	SIM, 255 records (SIM dependent) ADN, FDN, SDN, MS-ISDN
CPHS	Version 4.2 (no ALS)
Text input	T9 4.1
Silent Alert	Vibration acceleration min 1g for front and rear measurements, less than 11000 rotations/min Mechanical noise of the component : loudness max 50 dBA @ 10 cm distance
Phone No. Memory	30 numbers, for last number dialled, last number missed, last number received all with date and time stamp
Voice Recognition	Speaker dependent: 20 tags via a “simple” UI
Echo cancellation	Supported
Noise reduction	Supported

2 MOBILE SOFTWARE PROGRAMMING

See the Software Update Manual.

3 UNLOCKING PROCEDURE

Not appilcable.

4 ACCESSORIES

The only available accessory is the standard charger:

Is designed by Siemens according to specification " Charger for L55 series – version 03"Spec Ref: DIS 10506; date: 17/04/02 from Siemens AG ICM MP PO2 KLF32

The Standard Charger is only available in 3 country versions: UK, EU, China.

5 BATTERY INFORMATION

5.1 label making

- Customer Part Number: The label artwork will have the customer part no. shown as follows :

Siemens part number: V30145-K1310-X267

The product index number, which signifies battery version, shall be printed after the CELLon part number.
The mass product index number is 3.
-Tracking Code: Each battery will be marked with a unique code as follows :

YYYYMMDD ABCXXXX

Where YYYYMMDD = The battery manufacturing date.
A = the line number
B = the shift number (A,C day shift: B,D, night shift)
C= serial number from A to Z
XXXX = is a sequence number.

- The country of origin of the cell shall be printed on the label.
Also after cell origin country shall be printed in brackets, S for Sanyo and T for Toshiba, to denote cell supplier.

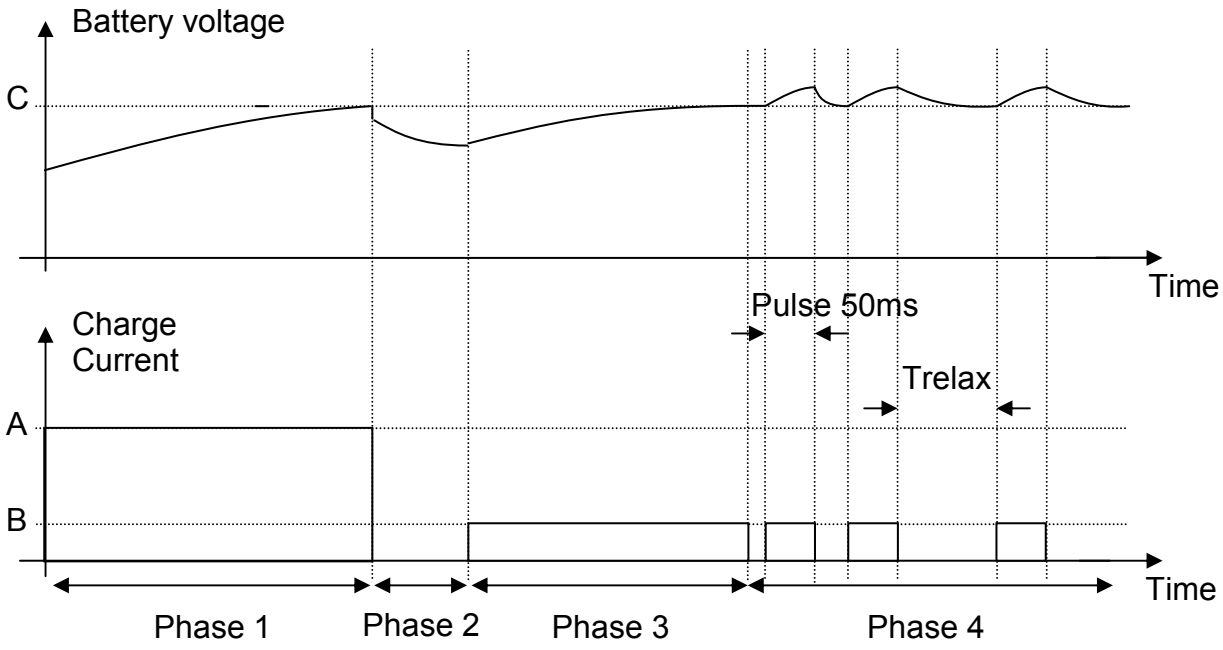
5.2 Charging time:

2-3 hours (as mentioned in the user guide).

5.3 Charging procedure:

The “Two current steps charge ” is divided in 4 phases :

PH1 : Continuous Full Current.
PH2 : Wait Step.
PH3 : Continuous low current charge .
PH4 : Pulsed low current charge.



A	High average current limited by the charger
B	Continuous low current limited by the phone
C	Release voltage of 4.2V +/-1%

Phase 1: High average current charge

This phase occurs if the voltage is between 3.1V and 4.2 V +/- 1%.
During this step, the charge current is only limited by the charger, except if this current is too high for the battery (refer to Annex13 for further explanations on this current limit).
As some of the SIEMENS chargers delivers a high current compared to the capacity of the battery, it's necessary to detect too high a current and to directly go through "continuous low current charge". If this is not implemented, some customers could have their talk time and standby time shortly and drastically reduced after few charges. In order to prevent this risk, it's necessary to measure the current at the beginning of this "high average current charge" phase and to go to next step if this current is too high.

The phase 1 ends when the battery voltage is 4.2V +/-1%. At the end of this phase, Wait step begins.

Phase 2: Wait Step

This phase begins at the end of the phase 1 and is a wait step during which the charge is stopped.
It is used to let the cell voltage decrease and avoid random transitions.
This timer is set to 4 seconds.

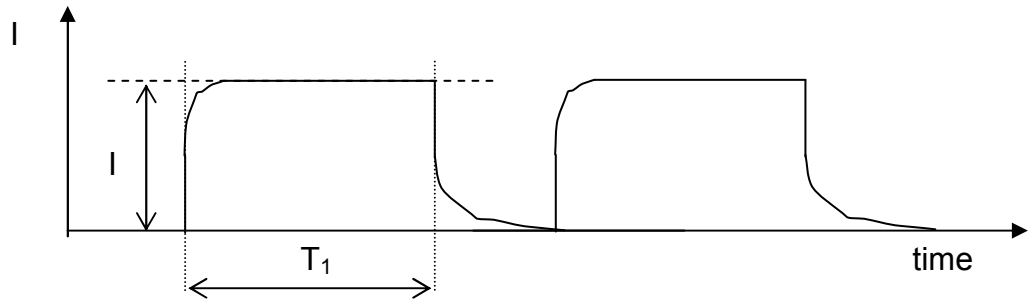
Phase 3:Continuous low current charge

For any charger, the charge current is limited between 100mA and 200mA, until the cell's voltage reaches 4.2 Volts +/-1% for the second time (first time during phase 1). At the end of this phase, the Pulsed low current charge phase begins.

Phase 4: Pulsed low current charge

This phase begins at the end of the phase 3. The phase is applied endlessly
The current is applied for 50 ms. The next pulse is applied as soon as the battery voltage goes down to 4.2V +/-1%.

With any switch mode chargers, the pulse has the following profile :

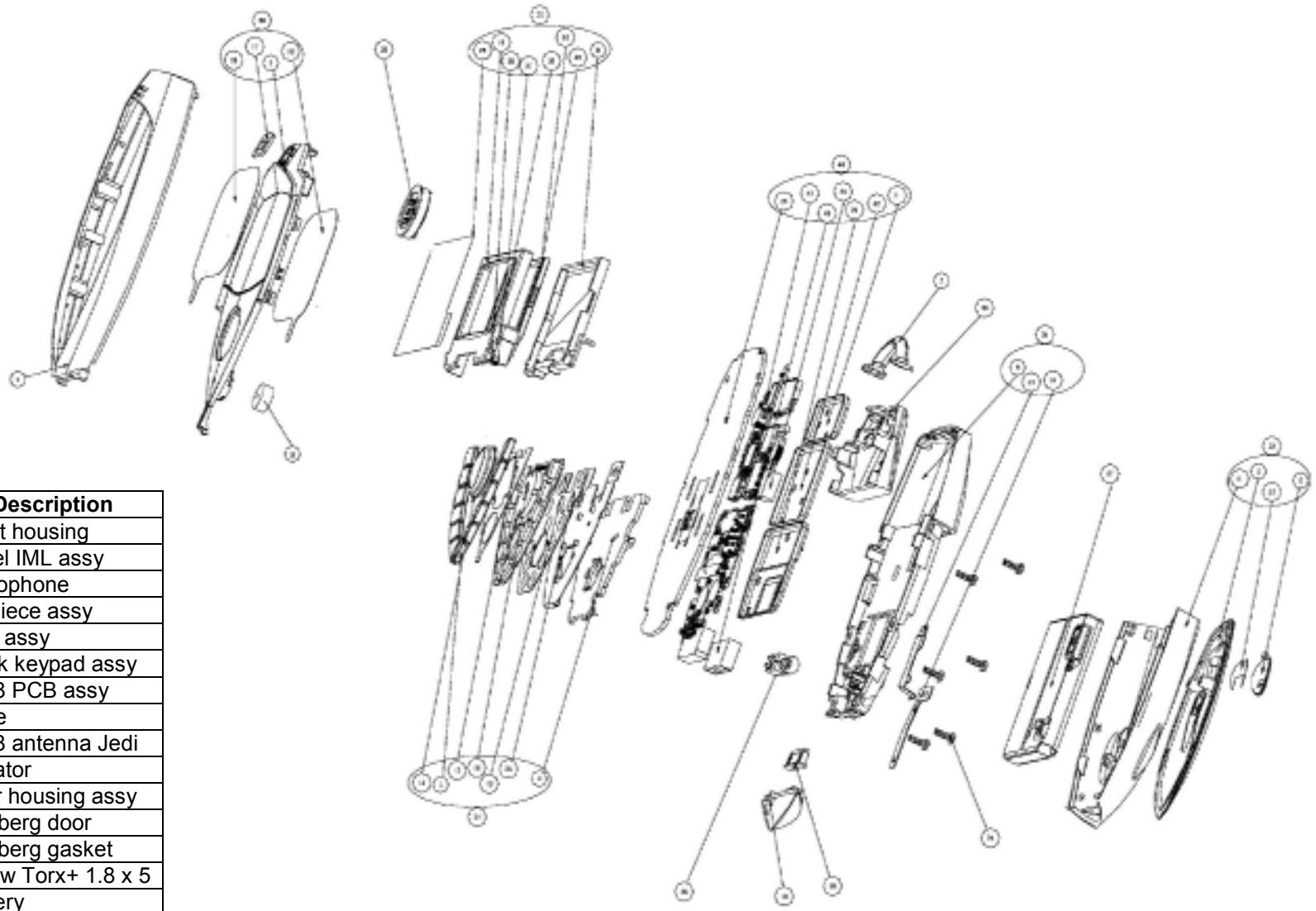


Imax = 200 mA

T1typ = 50 ms
T1 max = 52 ms

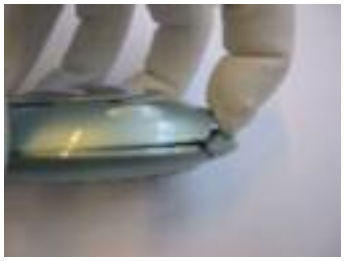
6 Exploded view

Level 2,5 spare parts



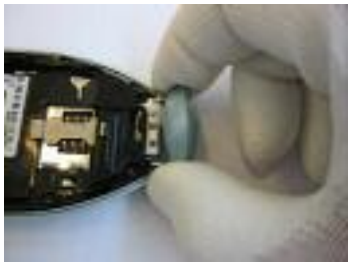
No	Order no.	Description
1	Not yet defined	Front housing
30	Not yet defined	Bezel IML assy
51	Not yet defined	Microphone
36	Not yet defined	Earpiece assy
35	Not yet defined	LCD assy
34	Not yet defined	Black keypad assy
44	Not yet defined	S128 PCB assy
7	Not yet defined	Rope
33	Not yet defined	S128 antenna Jedi
46	Not yet defined	Vibrator
31	Not yet defined	Rear housing assy
10	Not yet defined	Lumberg door
18	Not yet defined	Lumberg gasket
24	Not yet defined	Screw Torx+ 1.8 x 5
41	Not yet defined	Battery
32	Not yet defined	Battery cover assy

7 DISASSEMBLY PROCESS



Unclip the battery cover

Remove the battery



Unclip the Lumberg door

Unscrew 6 self taping screws torx 6
with a manual screwdriver

Remove the rear housing ass'y

Unclip the Lumberg gasket

Remove the foil with tweezers

Remove the vibrator with tweezers

Remove the PCB with antenna assy

Unclip the antenna assy

Remove the rope

urn the front housing with LCD assy & keypad assy & bezel IML down
Remove the front housing

Turn the LCD assy & keypad assy & bezel IML down
Unclip the keypad assy

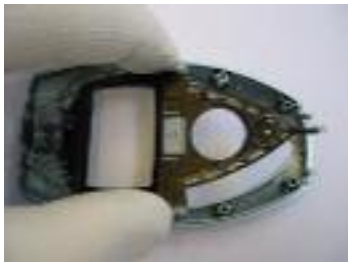
Remove the LCD assy

Remove the earpiece with tweezers

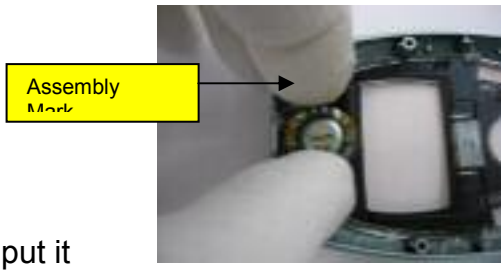
Remove the microphone with tweezers

8 ASSEMBLY PROCESS

Take a front housing



Put a bezel IML assy in the front housing
(for a new part remove the protection foil on the inner side of the window)



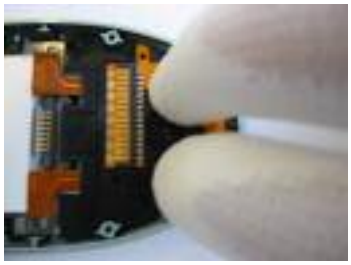
Take an earpiece. Remove the protection foil and put it in the bezel IML assy
(Take care to the orientation)

Insert a microphone in the besel IML assy
(Take care to the two spring contacts)

Take a LCD
(for a new part remove the protection foil on the inner side of the bezel and on the LCD)
Blow the dust on the bezel IML assy and the LCD with a ionising gun

Put a LCD assy in the bezel IML assy

Put a keypad assy
(Take care to the spring contacts)



Clip the keypad assy around the microphone
(Take care to the two spring contacts)

Insert a rope in the front housing

Take a PCB and an antenna assy

<u>Attention:</u> The antenna for X4 is different to the X2 antenna !!! The X4 antenna is marked with a white sticker whereas the X2 antenna is marked with a blue sticker. Do not mix up the antennas this will cause radio problems.
Clip the antenna assy

Put the PCB assy

Begin with the Lumberg connetor side and clip the PCB on the antenna side

Take a rear housing assy
Take a vibrator

Insert the vibrator in the rear housing assy
(Take care to the two spring contacts)

Move the Lumberg door foil behind the 2 bumps

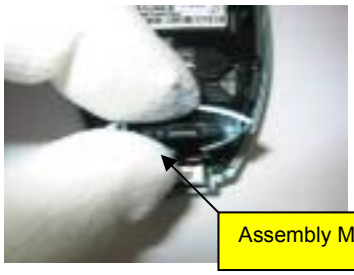
Put the rear housing assy on the product
Insert at first the antenna side and shut down on the product

Screw 6 self taping screws torx 6
with a manual screwdriver

Take a Lumberg door

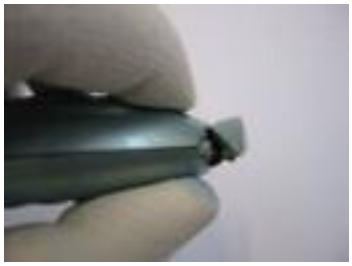
Insert the foil on the Lumberg door

Take a Lumberg gasket and insert it
(take care to the gasket orientation)



Put the battery in place

Insert the battery cover
Clip it on the front housing



Insert the Lumberg door in the Lumberg connector

9 TOOLS DESCRIPTION

Torx 6 manual screwdriver

Tweezers

ESD protection bracelet

Ionising gun

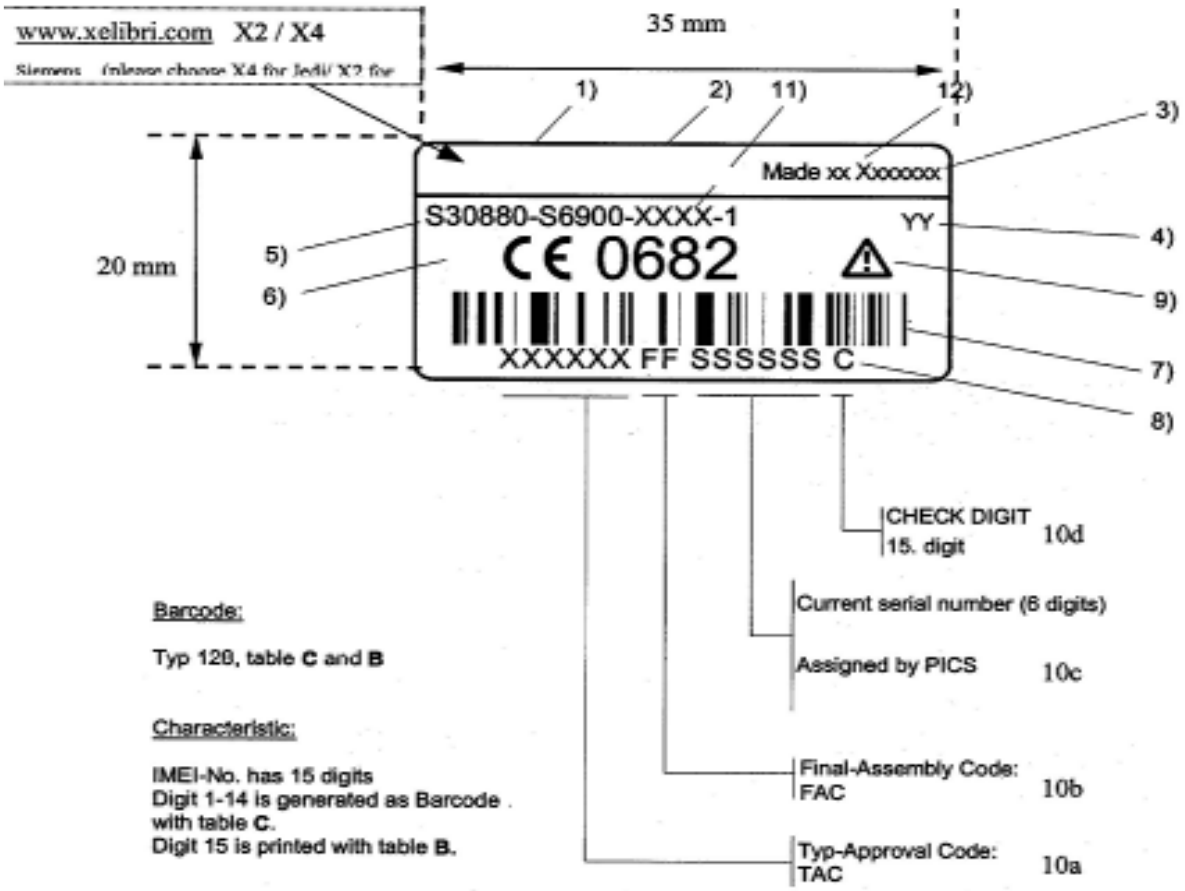
10 IMEI ACCES

Dial : * # 06 #

11 IMEI LABEL DESCRIPTION

II. Main unit (IMEI Label)

2.0 Main unit Regulatory label



#	Description of Details	Comment/Specifications
1	Brand Name (web address) with Siemens name below in small print	Internal font D, size 6 Xelibri and product name, size 4 for Siemens underneath
2	Product Number (specific to phone)	Internal font D, size 4
3	Make in China	Bit map
4	Production year	Internal font D, size 4
5	Code number	Internal font D, size 4
6	CE-identification number	Height 5mm
7	Barcode IMEI-No.:	Code 128 Siye 2 Ratio 3.0 Height 3mm
8	IMEI-No. (plain writing)	Internal font D, siye 4, space between TAC, FAC, Serial no. and 15 digit
9	Triangle	Height of 4mm
10a	Type-Approval Code (Cellon)	Cellon to specify based on internal process
10b	Final Assembly Code	Cellon manufacturing batch indication
10c	Pick number	Cellon manufacturing pick number optional
10d	Check digit	Cellon optional field
11	Product code number	Siemens unique identification number (Siemens) (see variant list for specific numbers Jedi/Lunar)
12	Make in China	Indicated production location