Level 2 Repair Manual

XELIBRI-X2

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.

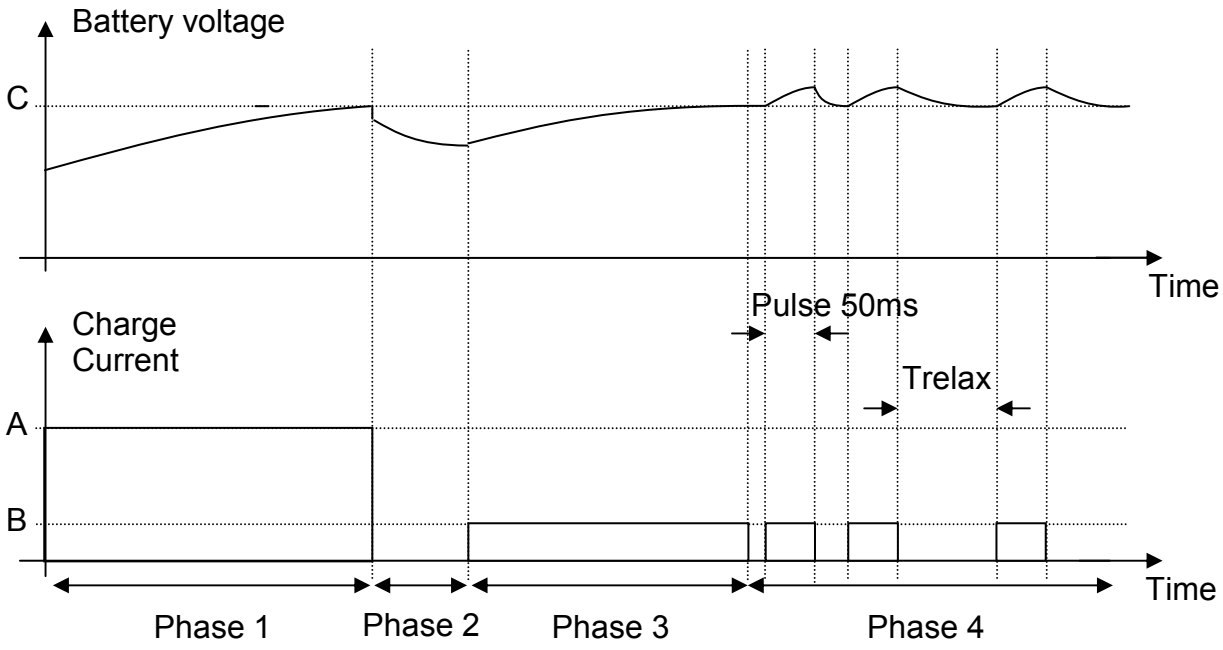
5.2 Charging time:

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.

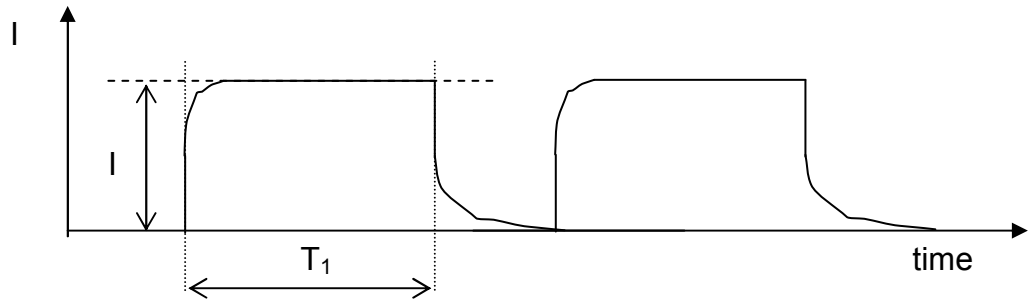
Phase 3:Continuous low current charge

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 :

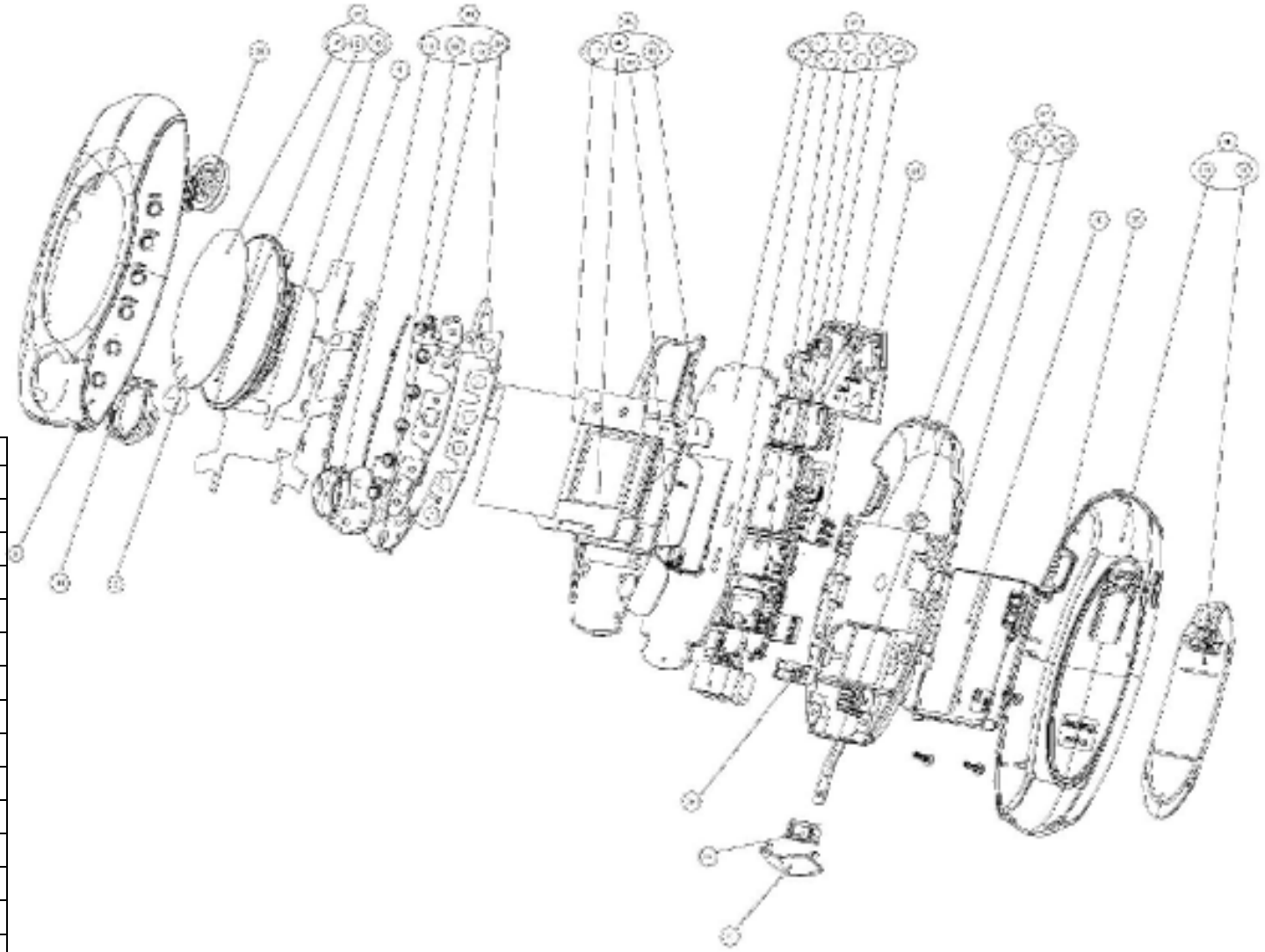


Imax = 200 mA

T1typ = 50 ms
T1 max = 52 ms

6 EXPLODED VIEW

Spare parts level 2,5



No	Order no.	Description
5	Not yet defined	Front housing
14	Not yet defined	Ring rockerkey
3	Not yet defined	Microphone
34	Not yet defined	Earpiece assy
29	Not yet defined	Window IMD assy
4	Not yet defined	Front block foil
33	Not yet defined	Keypad
35	Not yet defined	LCD assy
44	Not yet defined	S128 PCB assy
31	Not yet defined	S128 antenna lunar
39	Not yet defined	Vibrator
32	Not yet defined	Chassis assy
18	Not yet defined	Lumberg gasket
10	Not yet defined	Lumberg door
40	Not yet defined	Battery
23	Not yet defined	Screw Torx+ 1.8 x 5
30	Not yet defined	Rear housing assy

7 DISASSEMBLY PROCESS

Unclip the rear housing assy

Unclip the battery

Unclip the Lumberg door

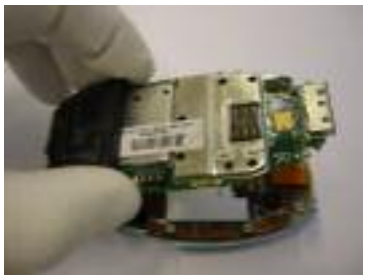
Unscrew 6 self taping screws torx RF 1.8 X 5.0
With a manual screwdriver

Remove the chassis assy

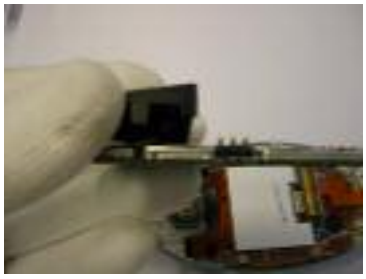
Unclip the Lumberg gasket

Remove the foil with tweezers

Remove the vibrator with tweezers



Remove the PCB with antenna assy

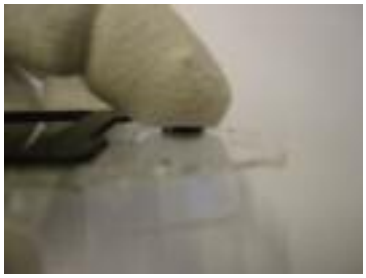


Unclip the antenna assy

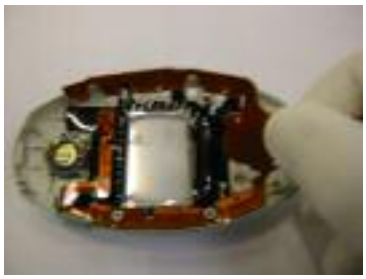
Remove the keypad spring connector with tweezers

Remove the LCD assy with tweezers

Remove the microphone

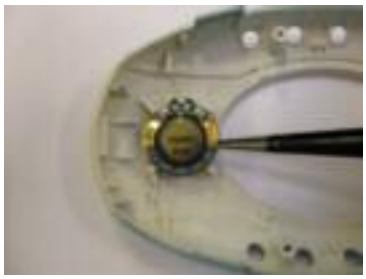


Remove the keypad assy



Remove the black foil with tweezers

Turn the front housing . The window and the ring rocker key fall down



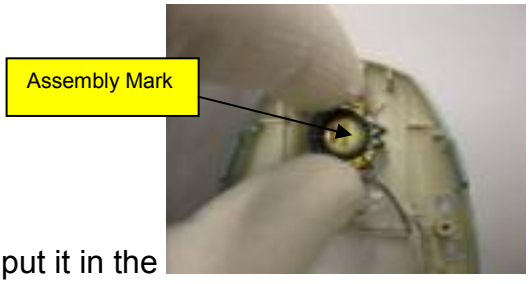
Remove the earpiece with tweezers

8 ASSEMBLY PROCESS

Take a front housing

Put a ring rocker key in the front

Put a window assy
(for a new part remove the protection foil on the inner side of the window)

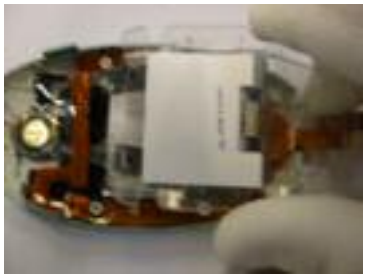


Take an earpiece. Remove the protection foil and put it in the front. **(Take care to the earpiece orientation)**

Put a black foil in the front

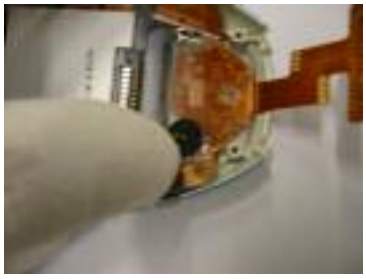
Put a keypad assy in the front

Take a LCD assy .
(for a new part remove the protection foil on the LCD)
Blow the dust on the window and on the LCD with a ionising gun



Put a LCD assy in the front housing

Move the foil with LEDs in their location



Put a microphone in place
(Take care to the two spring contacts)
For a new keypad
Remove the protection foil behind the keypad spring connector

Fold up the foil of the keypad and stick the connector
(Take care to the spring contacts)

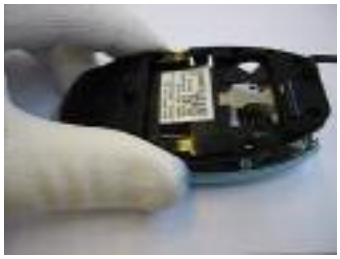
Take a PCB and an antenna assy
Clip the antenna assy on the PCB

Attention: 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.

Put the PCB in place

Take a chassis assy

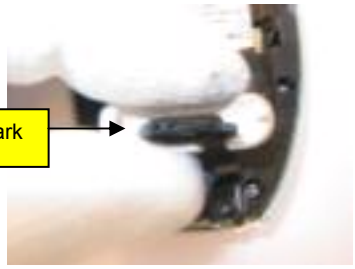
Take a vibrator and insert it in place
(Take care to the two spring contacts)



Put the chassis, insert at first the antenna side
and shut down on the product

Screw 6 self taping screws torx RF 1.8 X 5.0
With a manual screwdriver

Take a Lumberg door
Insert the Lumberg door clip on the foil



Take a gasket ,insert the gasket on the Lumberg door
(Take care to the gasket orientation)

Insert a battery

Take a rear housing assy ,
insert at first the Lumberg door side
and shut down on the product
Clip the rear housing assy

Insert the Lumberg door in the Lumberg connector

9 TOOLS DESCRIPTION

RF 1.8x5.0 Torx manual screwdriver_____

Tweezers_____

ESD protection bracelet_____

Ionising gun_____

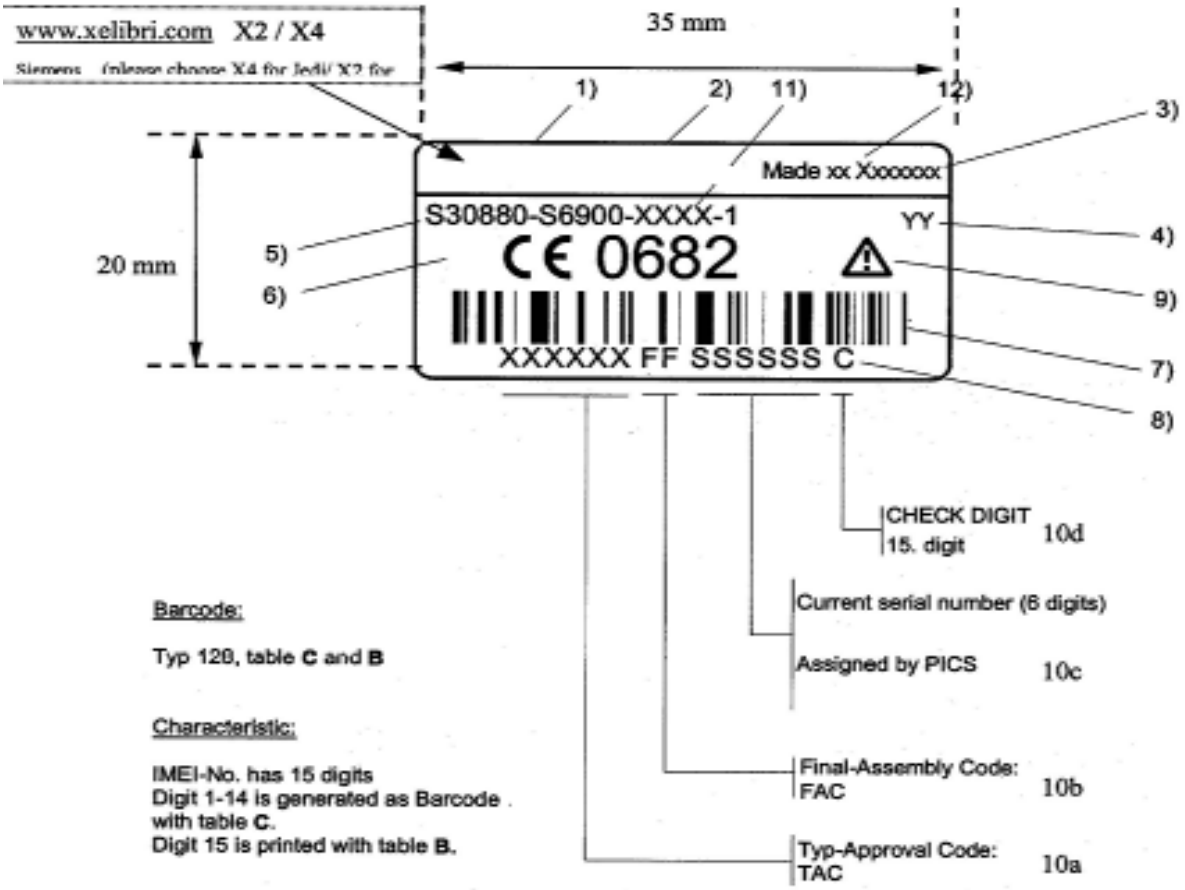
10 IMEI ACCES

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 (Celloe)	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