C55

Level 2.5

Repair Documentation

V 1.0

Table of Content

1 Introduction

C55 product is a dualband (GSM900 and GSM1800) handset.

This product is developed with different HW in the radio part, which can not be distinguished on the IMEI label. The HITACHI (HIT) as the INFINEON (IFX) boards have the same logic part. For all described Level 2.5 components you find a board type identification in the document as shown below.

HIT	component used only in HITACHI version
IFX	component used only in INFINEON version
HIT/IFX	component used in HITACHI and INFINEON versions

Partnumber on IMEI label:

C55: S30880-S5600-#xxx

, while # may be any letter (A-Z) and xxx may be any number from 100, 101, 102....

This manual is intended to help you carry out repairs on level 2.5, meaning limited component repairs. The documented failure highlights should be repaired in the local workshops.

All repairs have to be carried out in an environment set up according to the ESD (Electrostatic Discharge Sensitive Devices) regulations defined in international standards.

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

Tel.: +49 2842 95 4666
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e-mail: st-support@klf.siemens.de

2 I/O Connector (Slim Lumberg)

2.1 Affected Units

2.1.1 Type: C55

2.1.2 Affected IMEIs / Date Codes: All / All

2.1.3 Affected SW Versions: All

2.2 Fault Description

2.2.1 Fault Symptoms for customers:

- Charging problems.
- Problems with external loudspeaker or microphone when using a car kit.
- Problems with accessories connected at the I/O - connector.
- Problems with SW booting

2.2.2 Fault Symptoms on GSM Tester:

This fault cannot be detected with a GSM-Tester

2.3 Priority:

☐ Mandatory
☑ Repair
☐ Optional
☐ Not Yet Defined

2.4 Repair Documentation:

2.4.1 Description of procedure:

2.4.1.1 Diagnosis:

Visually check the bottom connector. Watch for dry joints:

2.4.1.2 Repair by component change:

Use hot air blower remove defective I/O connector.
Avoid excessive heat!
Watch surrounding components!

Resolder new I/O connector afterwards.

2.4.1.3 Repair by Software booting:

Not possible!

2.4.1.4 Test:

Retest handset after repair.

2.4.2 List of needed material:

2.4.2.1 Components:

I/O Connector C55 HIT/IFX
Part-Number: L36334-Z93-C303

2.4.2.2 Jigs and Tools:

Hot Air Blower
Soldering Iron

2.4.2.3 Special tools:

None

2.4.2.4 Working materials

Desolder Wick / Braid
Solder

2.4.3 Drawings

Figure 1: C55 IFX board I/O connector

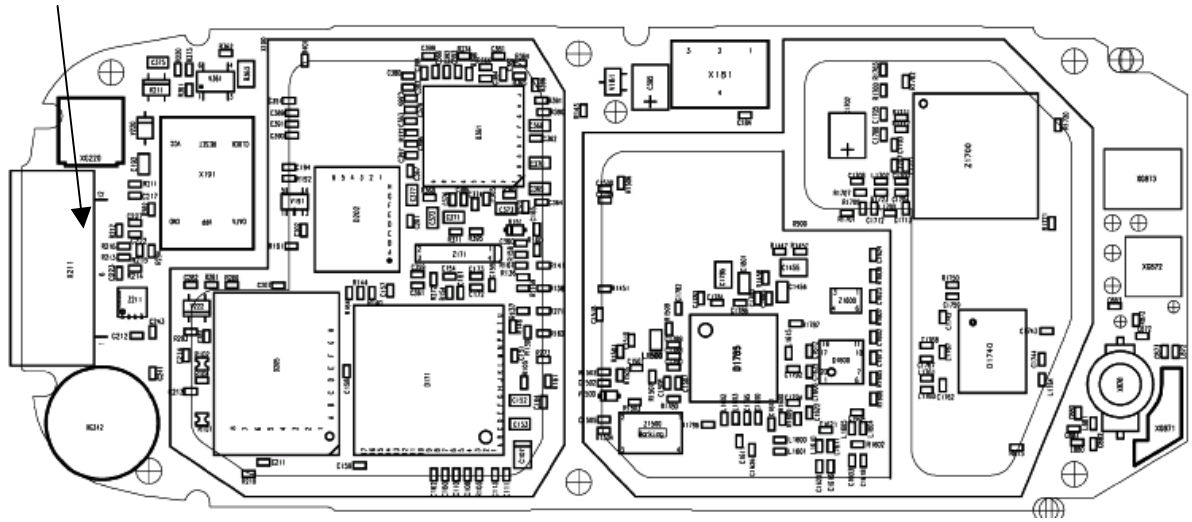


Figure 2: C55 HIT board I/O connector

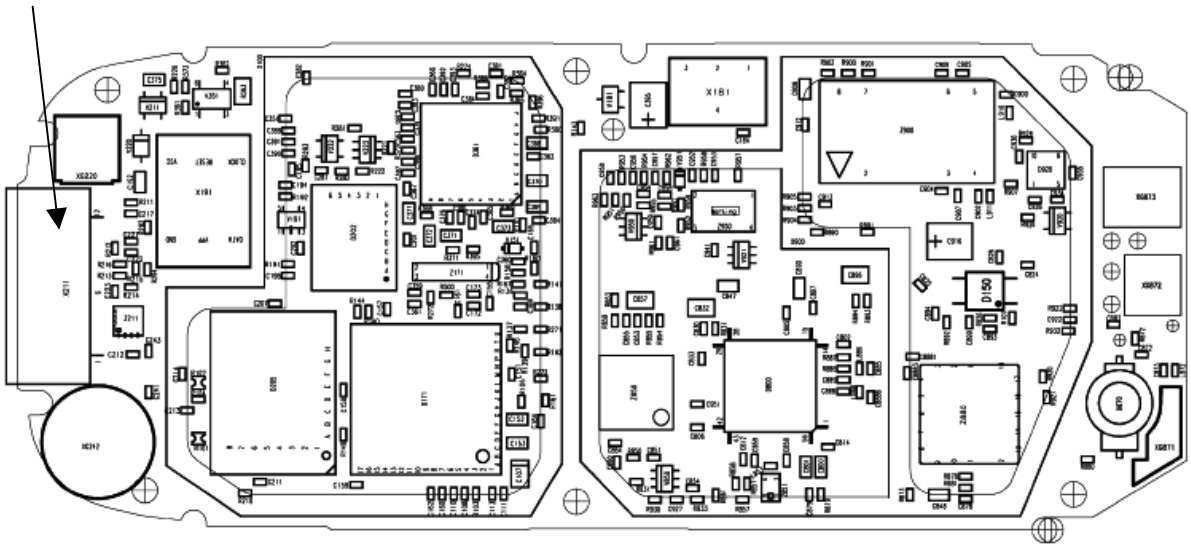


Figure 3: C55 IFX/HIT I/O connector placement (top view)

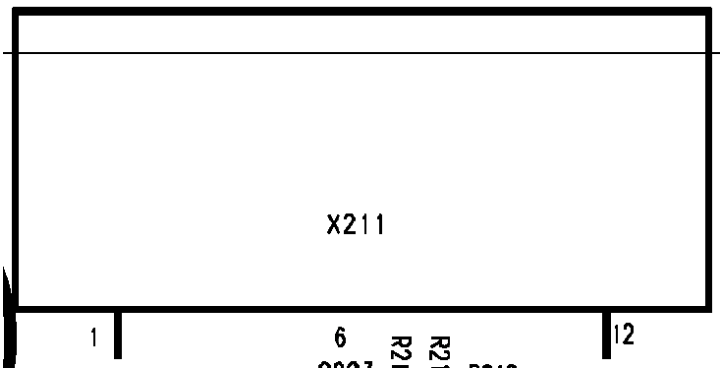


Table 1: C55 IFX/HIT Bottom Connector Pin Description

Pin	Name	IN/OUT	Notes
1	POWER	I/O	POWER is needed for charging batteries and for supplying the accessories
2	GND		
3	TX	O	Serial interface
4	RX	I	Serial interface
5	CTS	I/O	Data line for accessory bus
6	RTS	I/O	Use as RTS in data operation
7	DCD	I/O	Clock line for accessory bus Use as DTC In data operation
8	AUDIO_L	O	External loudspeaker
9	AUDIO_REF		mid-voltage in stereo mode refernce to AUDIO_L and AUDIO_R in mono mode not used
10	AUDIO_R	OI	External loudspeaker
11	GND_MIC	I	GND for external microphone
12	MICP2	O	External microphone

3 Battery Connector

3.1 Affected Units

3.1.1 Type: C55

3.1.2 Affected IMEIs / Date Codes: All / All

3.1.3 Affected SW Versions: All

3.2 Fault Description

3.2.1 Fault Symptoms for customers:

Mobile does not switch on.
Error message “WRONG BATTERY” on display.

3.2.2 Fault Symptoms on GSM Tester:

This fault cannot be detected with a GSM-Tester.

3.3 Priority:

☐ Mandatory
☑ Repair
☐ Optional
☐ Not Yet Defined

3.4 Repair Documentation:

3.4.1 Description of procedure:

3.4.1.1 Diagnosis:

Visually check the status of the Battery connector. Watch for oxidation and dry solder joints.

3.4.1.2 Repair by component change:

Use hot air blower remove defective Battery connector.
Avoid excessive heat!
Watch surrounding components!

Resolder new Battery connector afterwards.

3.4.1.3 Repair by Software booting:

Not possible!

3.4.1.4 Test:

Retest handset after repair.

3.4.2 List of needed material:

3.4.2.1 Components:

Battery Connector C55 HIT
Part-Number: L36334-Z97-C213

Battery Connector C55 IFX
Part-Number: L36334-Z97-C160

3.4.2.2 Jigs and Tools:

Hot Air Blower
Soldering Iron

3.4.2.3 Special tools:

None

3.4.2.4 Working materials

Desolder Wick / Braid
Soldering Iron

3.4.3 Drawings

Figure 1: C55 IFX board Battery connector

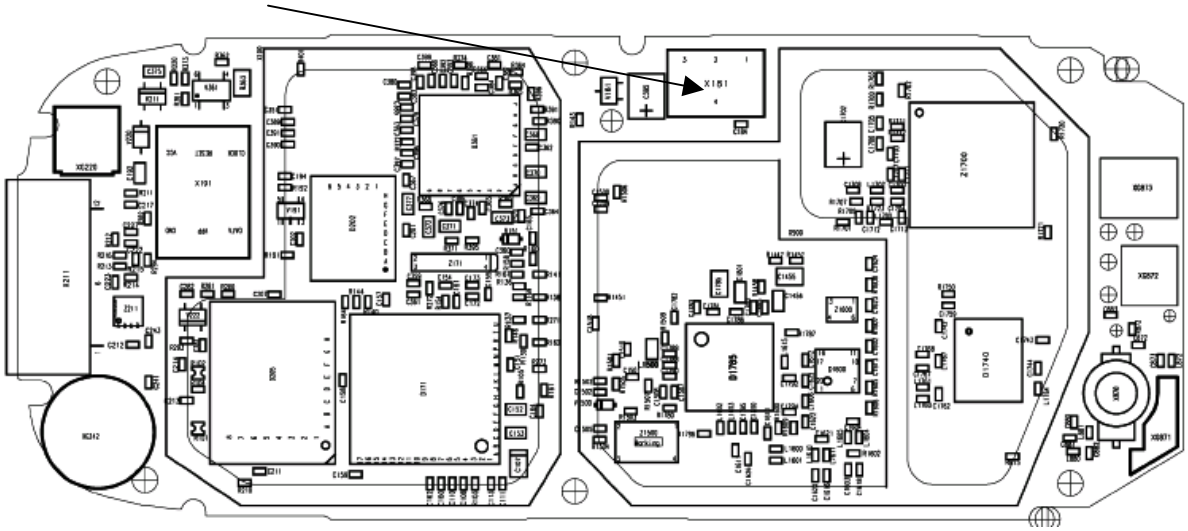


Figure 2: C55 HIT board Battery connector

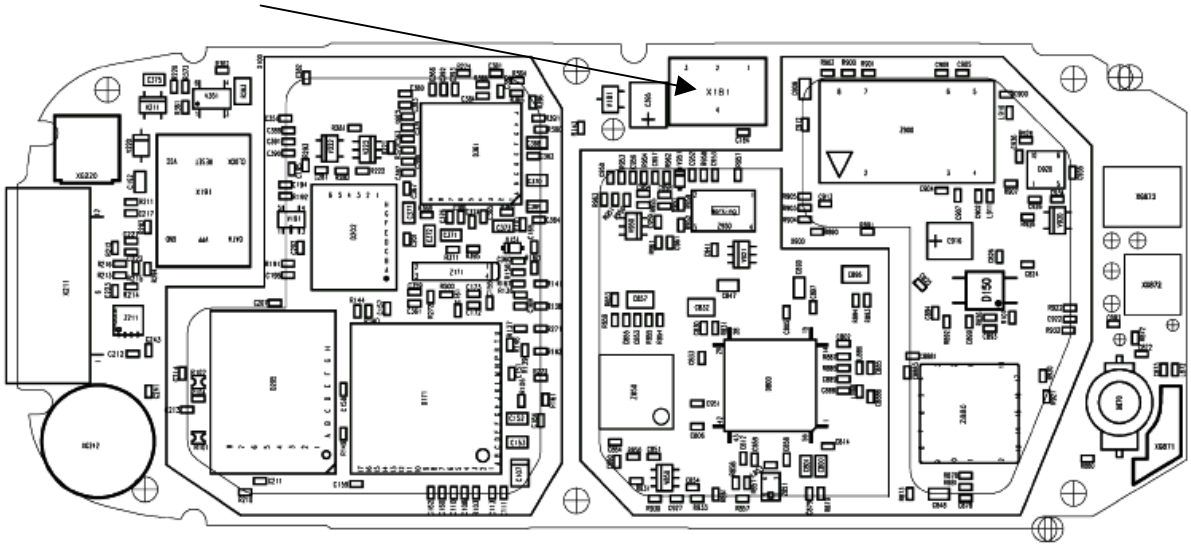
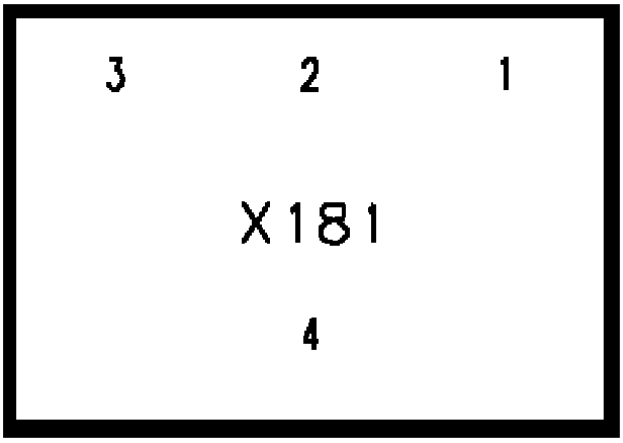


Figure 3: C55 IFX/HIT Battery connector placement (top view)



4 Antenna Connector

4.1 Affected Units

4.1.1 Type: C55

4.1.2 Affected IMEIs / Date Codes: All / All

4.1.3 Affected SW Versions: All

4.2 Fault Description

4.2.1 Fault Symptoms for customers:

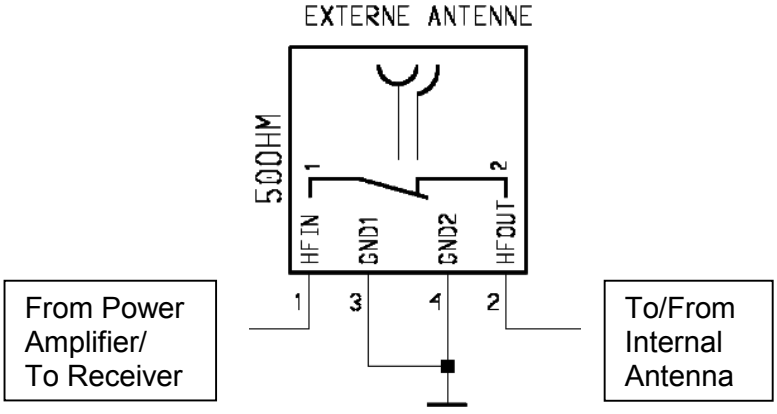
Network Search
No location update possible

4.2.2 Fault Symptoms on GSM Tester:

Output power problems on the external and internal antenna
No location update possible

4.2.3 Component Information:

The Antenna Connector is a mechanical switch operated by the RF plug of a car kit. Normally the RF signal goes to and comes from the internal antenna. Whenever an RF plug is plugged into the antenna connector the connection to the internal antenna is opened and the connection to the external antenna socket is made. When the antenna connector is blocked without RF plug the connection to the internal antenna is also opened. See drawing below.



4.3 Priority:

☐ Mandatory
☑ Repair
☐ Optional
☐ Not Yet Defined

4.4 Repair Documentation:

4.4.1 Description of procedure:

4.4.1.1 Diagnosis:

Check the output power of the handset with the LSO test program. Especially watch the external antenna power!

4.4.1.2 Repair by component change:

Use hot air to remove defective antenna connector.
Avoid excessive heat!
Watch surrounding components!!

Resolder new module afterwards

4.4.1.3 Repair by Software booting:

Not possible!

4.4.1.4 Test:

Retest handset after repair.

4.4.2 List of needed material:

4.4.2.1 Components:

Antenna Connector C55 HIT/IFX
Part-Number: L36334-Z93-C272

4.4.2.2 Jigs and Tools:

Hot Air Blower
Soldering Iron

4.4.2.3 Special tools:

None

4.4.2.4 Working materials

Desolder Wick / Braid
Soldering Iron

4.4.3 Drawings

Figure 1: C55 IFX board Antenna connector

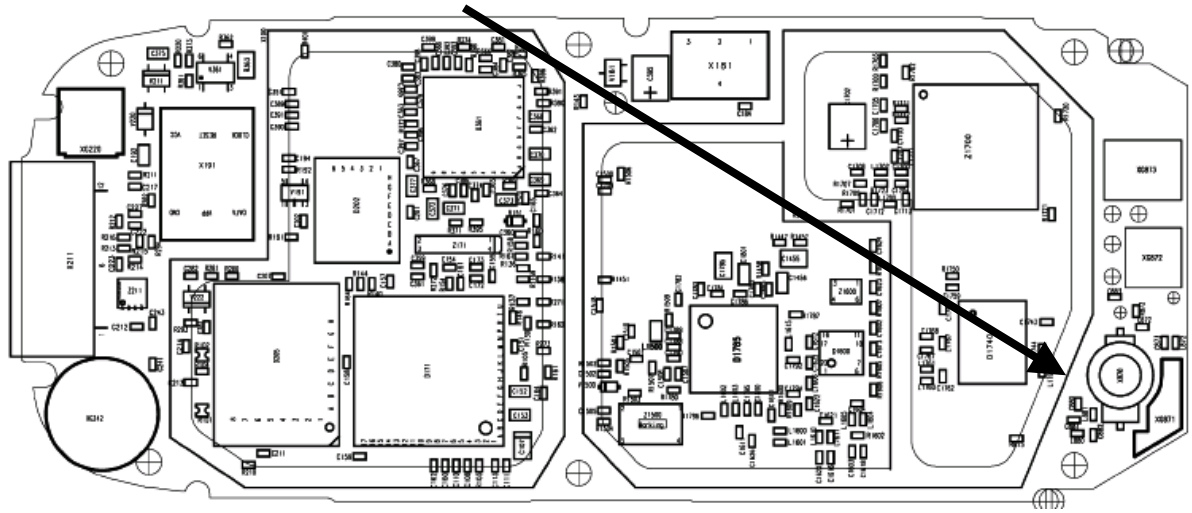


Figure 2: C55 HIT board Antenna connector

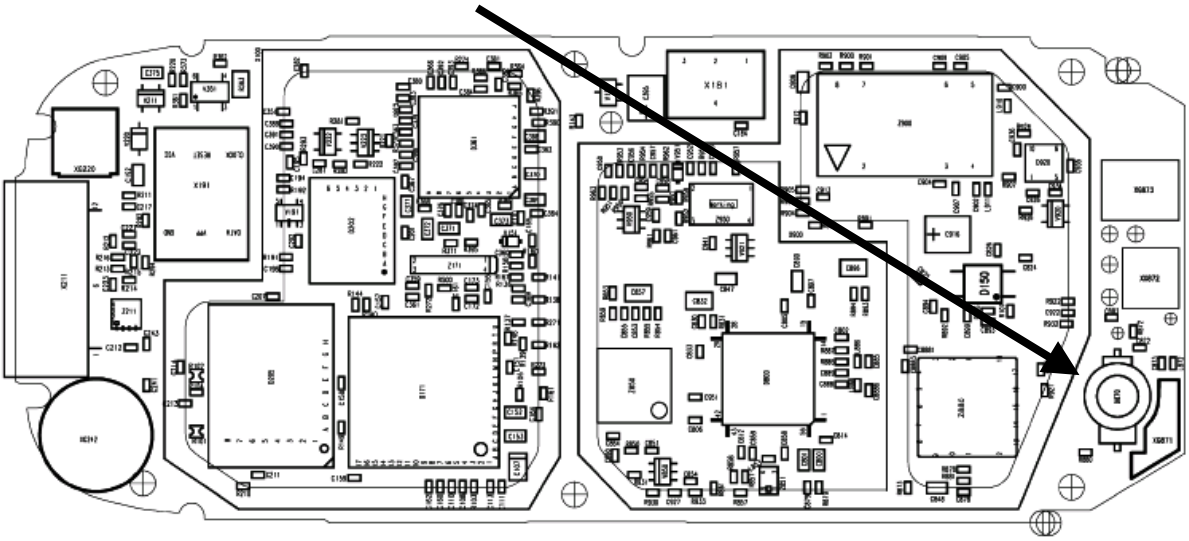
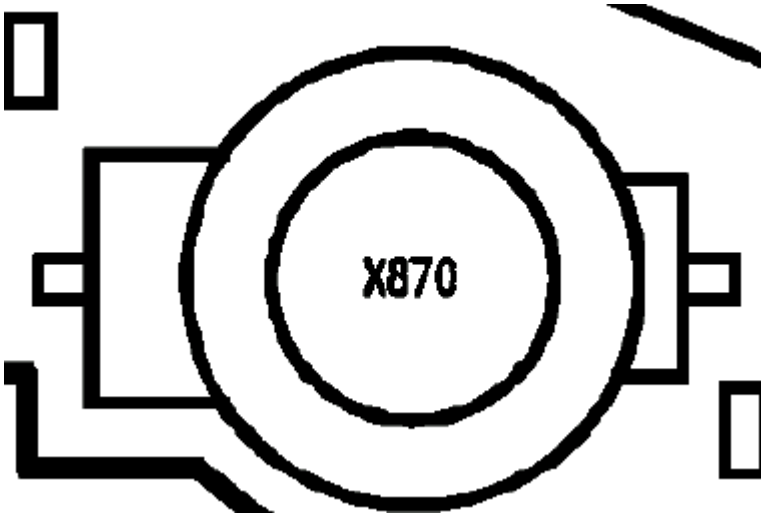


Figure 3: C55 HIT/IFX Antenna connector placement (top view)



5 Card Reader

5.1 Affected Units

5.1.1 Type: C55

5.1.2 Affected IMEIs / Date Codes: All / All

5.1.3 Affected SW Versions: All

5.2 Fault Description

5.2.1 Fault Symptoms for customers:

Handset does not accept SIM.

5.2.2 Fault Symptoms on GSM Tester:

This fault cannot be detected with a GSM-Tester

5.3 Priority:

☐ Mandatory
☑ Repair
☐ Optional
☐ Not Yet Defined

5.4 Repair Documentation:

5.4.1 Description of procedure:

5.4.1.1 Diagnosis:

Visually check the Card Reader. Watch for dry joints:

5.4.1.2 Repair by component change:

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

Resolder new Card Reader afterwards.

5.4.1.3 Repair by Software booting:

Not possible!

5.4.1.4 Test:

Retest handset after repair.

5.4.2 List of needed material:

5.4.2.1 Components:

Card Reader C55 HIT/IFX
Part-Number: L36334-Z97-C204

5.4.2.2 Jigs and Tools:

Hot Air Blower
Soldering Iron

5.4.2.3 Special tools:

None

5.4.2.4 Working materials

Desolder Wick / Braid
Soldering Iron

5.4.3 Drawings

Figure 1: C55 IFX board Card Reader site

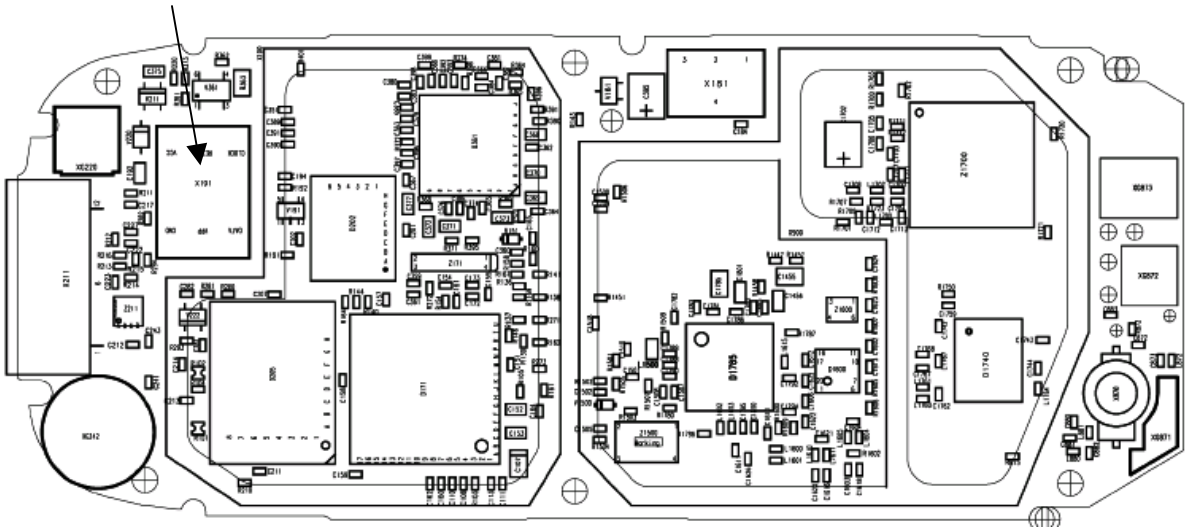


Figure 2: C55 HIT board Card Reader site

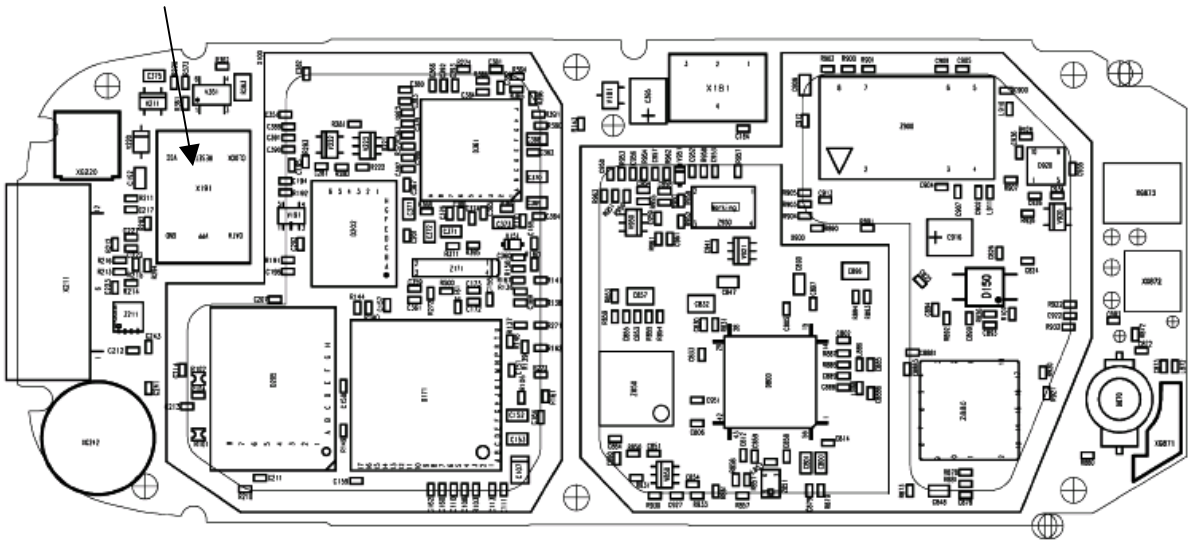
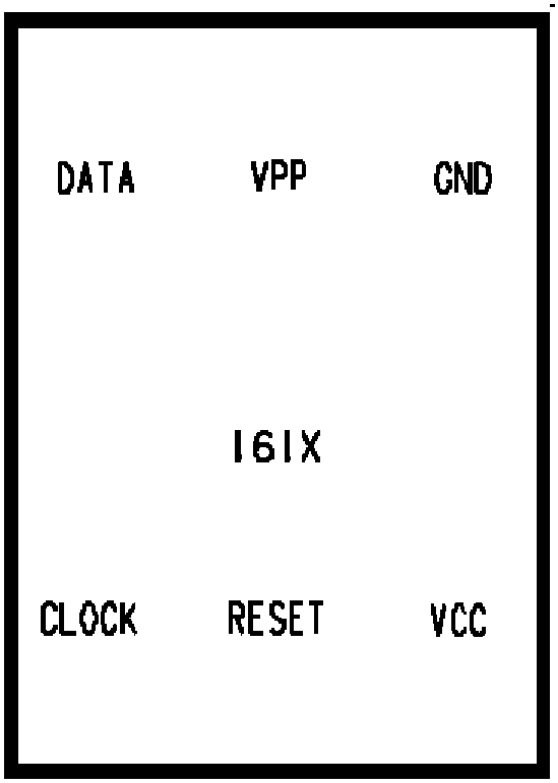


Figure 3: C55 HIT/IFX Card Reader placement (top view)



6 Keypad LEDs

6.1 Affected Units

6.1.1 Type: C55

6.1.2 Affected IMEIs / Date Codes: All / All

6.1.3 Affected SW Versions: All

6.2 Fault Description

6.2.1 Fault Symptoms for customers:

Keyboard Illumination does not work.

6.2.2 Fault Symptoms on GSM Tester:

This fault cannot be detected with a GSM-Tester

6.3 Priority:

- ☐ Mandatory
- ☑ Repair
- ☐ Optional
- ☐ Not Yet Defined

6.4 Repair Documentation:

6.4.1 Description of procedure:

6.4.1.1 Diagnosis:

Use the diode test function of a multimeter to check the status of the diode. The typical voltage drop on the diode is 1.7V when testing the diode function with the multimeter

6.4.1.2 Repair by component change:

Use soldering iron to remove defective diode.
Avoid excessive heat!
Watch surrounding components!!

Resolder new diode afterwards.

6.4.1.3 Repair by Software booting:

Not possible!

6.4.1.4 Test:

Retest handset after repair.

6.4.2 List of needed material:

6.4.2.1 Components:

LEDs C55 HIT/IFX
Part-Number: L36840-L2056-D670

6.4.2.2 Jigs and Tools:

Hot Air Blower
Soldering Iron

6.4.2.3 Special tools:

None

6.4.2.4 Working materials

Desolder Wick / Braid
Soldering Iron

6.4.3 Drawings

Figure 1: C55 IFX/HIT board keyboard LEDs side

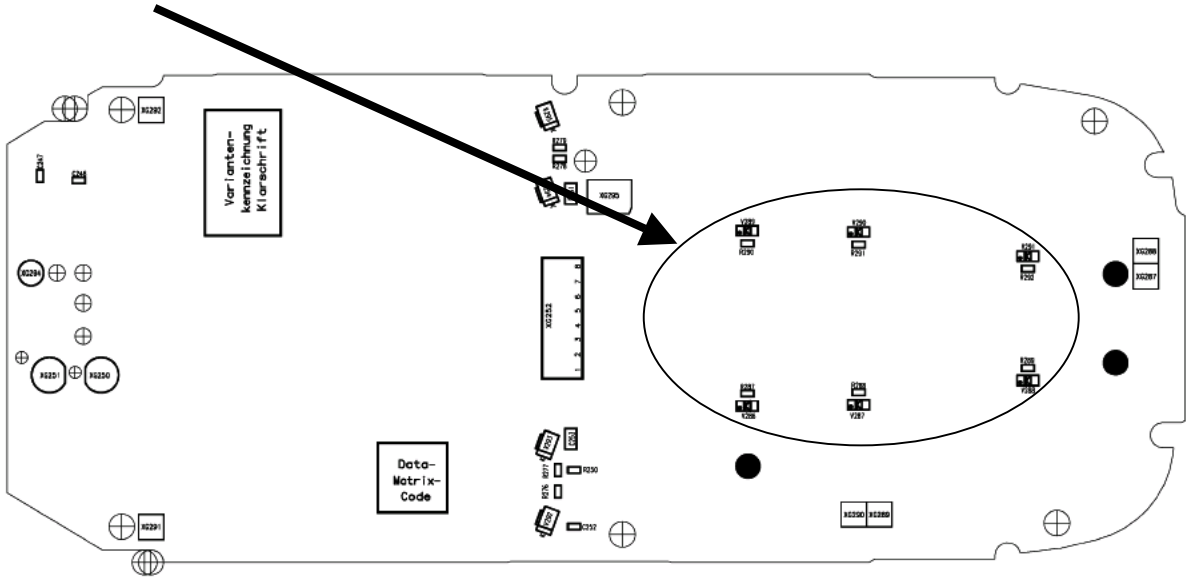
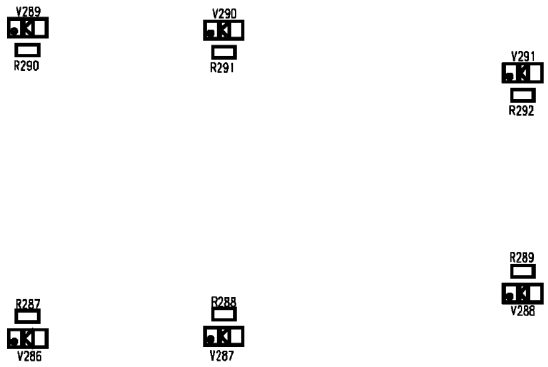


Figure 2: C55 IFX/HIT keyboard LEDs placement (top view)



7 Display LEDs

7.1 Affected Units

7.1.1 Type: C55

7.1.2 Affected IMEIs / Date Codes: All / All

7.1.3 Affected SW Versions: All

7.2 Fault Description

7.2.1 Fault Symptoms for customers:

Display Illumination does not work.

7.2.2 Fault Symptoms on GSM Tester:

This fault cannot be detected with a GSM Tester

7.3 Priority:

☐ Mandatory
☑ Repair
☐ Optional
☐ Not Yet Defined

7.4 Repair Documentation:

7.4.1 Description of procedure:

7.4.1.1 Diagnosis:

Use the diode test function of a multimeter to check the status of the diode. The typical voltage drop on the diode is 1.7V when testing the diode function with the multimeter

7.4.1.2 Repair by component change:

Use soldering iron to remove defective diode.
Avoid excessive heat!
Watch surrounding components!!

Resolder new diode afterwards.

7.4.1.3 Repair by Software booting:

Not possible!

7.4.1.4 Test:

Retest handset after repair.

7.4.2 List of needed material:

7.4.2.1 Components:

Display LEDs amber C55 HIT/IFS
Part-Number: L36840-L2055-D670

Display LEDs blue C55 HIT
Part-Number: L36197-F5008-F684

Display LEDs blue C55 IFS
Part-Number: L36334-F5005-F782

7.4.2.2 Jigs and Tools:

Hot Air Blower
Soldering Iron

7.4.2.3 Special tools:

None

7.4.2.4 Working materials

Desolder Wick / Braid
Soldering Iron

7.4.3 Drawings

Figure 1: C55 IFX/HIT board display LEDs side

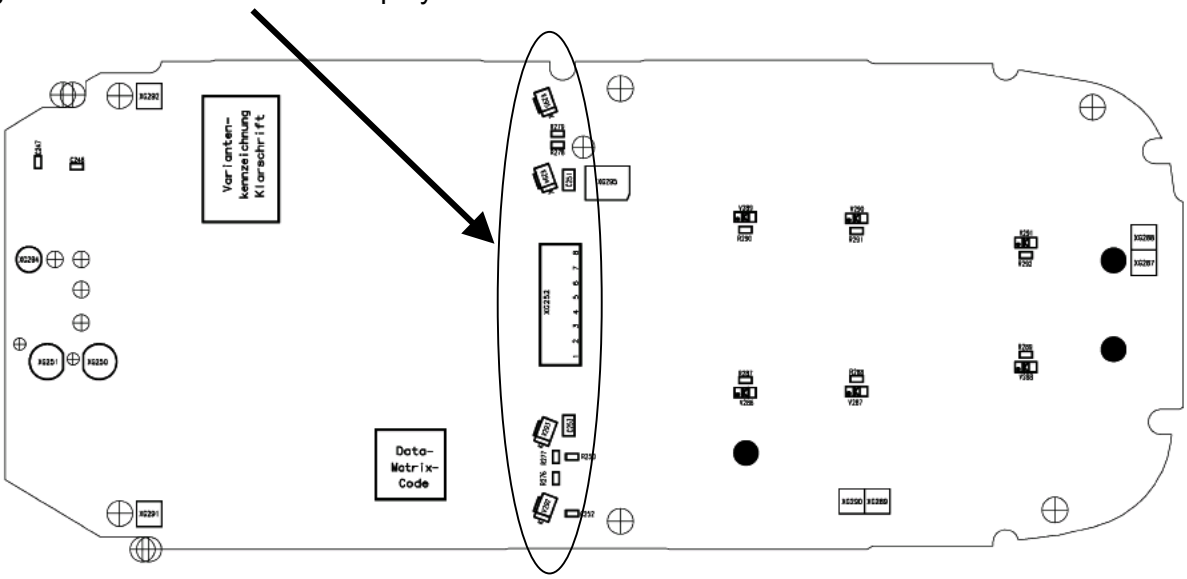


Figure 2: C55 IFX/HIT blue display LEDs placement (top view)

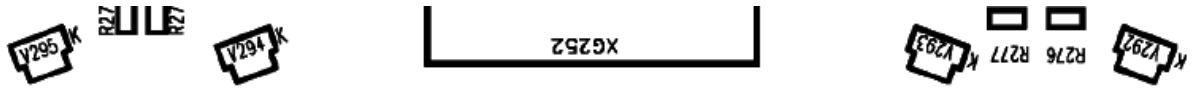


Figure 3: C55 IFX/HIT amber display LEDs placement (top view)