

# SL55/SL56

## Level 2.5

# Repair Documentation

## V 1.0

## Table of Content

1	Introduction .....	3
2	I/O Connector (Slim Lumberg) .....	4
3	Keyboard LEDs .....	8
4	Sidekey Connector .....	11
5	Antenna Connector .....	14
6	Card Reader .....	17
7	MMI Connector .....	20
8	IRDA .....	23
9	Resistor Antenna Circuit .....	26

## 1 Introduction

SL55 product family, consists of 1 tripleband (GSM900, GSM1800 and GSM1900) handsets named SL55, and the SL56, a dualband mobilphone (GSM850 and GSM1900)

Partnumber on IMEI label:

SL55: S30880-S4910-#xxx

SL56: S30880-S4920-#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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## 2 I/O Connector (Slim Lumberg)

### 2.1 Affected Units

**2.1.1 Type:** SL55/SL56

**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:

- |                                     |                 |
|-------------------------------------|-----------------|
| <input type="checkbox"/>            | Mandatory       |
| <input checked="" type="checkbox"/> | Repair          |
| <input type="checkbox"/>            | Optional        |
| <input type="checkbox"/>            | 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 SL56/SL56  
Part-Number: L36334-Z93-C303

#### **2.4.2.2 Jigs and Tools:**

Hot Air Blower  
Soldering Iron



Table 1: SL55/SL56 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_1	O	Serial interface
4	RX_1	I	Serial interface
5	CTS_1	I/O	Data line for accessory bus
6	RTS_1	I/O	Use as RTS in data operation
7	DCD_1	I/O	Clock line for accessory bus Use as DTC In data operation
8	AUDIO_P	O	External loudspeaker
9			
10	AUDIO_N	OI	External loudspeaker
11	GND_MIC	I	External microphone
12	EPP1	O	External microphone

### 3 Keyboard LEDs

#### 3.1 Affected Units

**3.1.1 Type:** SL55/SL56

**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:

Keyboard Illumination does not work

##### 3.2.2 Fault Symptoms on GSM Tester:

This fault cannot be detected with a GSM-Tester.

#### 3.3 Priority:

- |                                     |                 |
|-------------------------------------|-----------------|
| <input type="checkbox"/>            | Mandatory       |
| <input checked="" type="checkbox"/> | Repair          |
| <input type="checkbox"/>            | Optional        |
| <input type="checkbox"/>            | Not Yet Defined |



### **3.4 Repair Documentation:**

#### **3.4.1 Description of procedure:**

##### **3.4.1.1 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

##### **3.4.1.2 Repair by component change:**

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

Watch surrounding components!!

Resolder new diode afterwards.

##### **3.4.1.3 Resolder new diode afterwards.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:**

Keyboard LEDs SL55/SL56  
Part-Number: L36840-L2071-D670

##### **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: SL55/SL56 board keyboard LEDs side

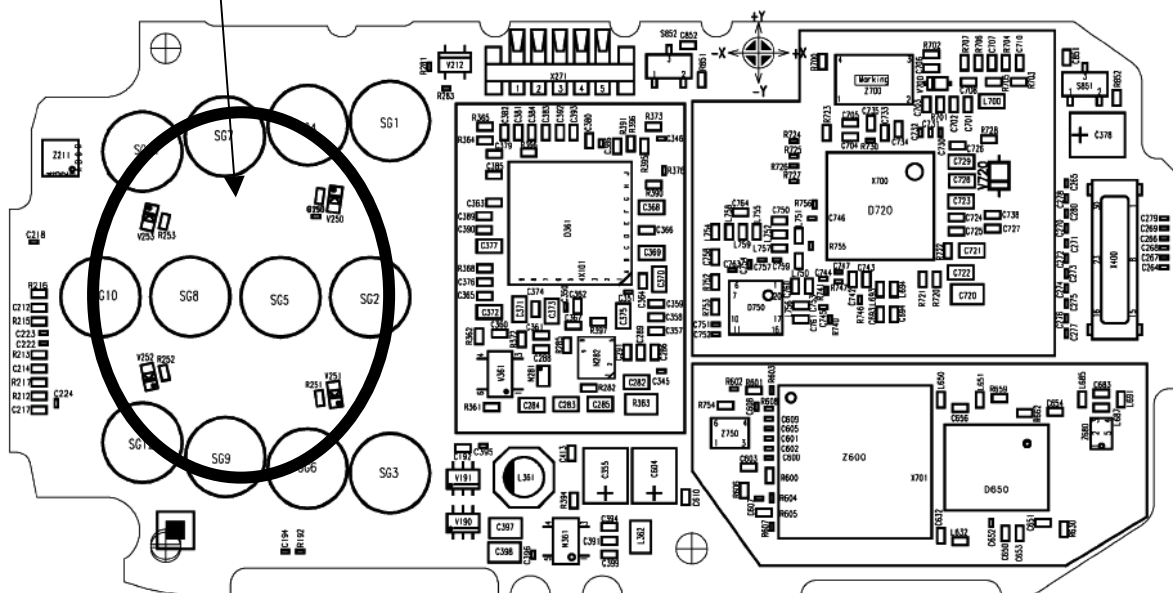
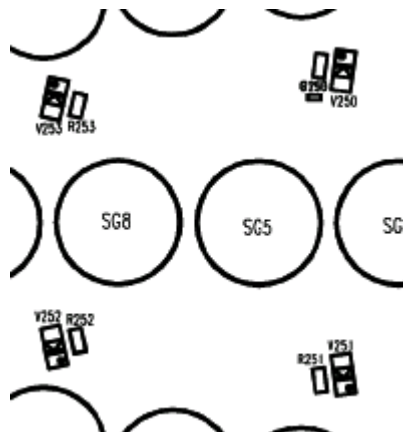


Figure 2: SL55/SL56/SL56 keyboard LEDs placement (top view)



## 4 Sidekey Connector

### 4.1 Affected Units

**4.1.1 Type:** SL55/SL56

**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:

Sidekey malfunction

#### 4.2.2 Fault Symptoms on GSM Tester:

This fault cannot be detected with a GSM-Tester.

### 4.3 Priority:

- |                                     |                 |
|-------------------------------------|-----------------|
| <input type="checkbox"/>            | Mandatory       |
| <input checked="" type="checkbox"/> | Repair          |
| <input type="checkbox"/>            | Optional        |
| <input type="checkbox"/>            | Not Yet Defined |

## **4.4 Repair Documentation:**

### **4.4.1 Description of procedure:**

#### **4.4.1.1 Diagnosis:**

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

#### **4.4.1.2 Repair by component change:**

Use soldering iron to remove defective connector.  
Avoid excessive heat!

Watch surrounding components!!

Resolder new connector afterwards.

#### **4.4.1.3 Resolder new diode afterwards.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:**

Sidekey Connector SL55/SL56  
Part-Number: L36197-F5010-F141

### **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: SL55/SL56 board sidekey connector side

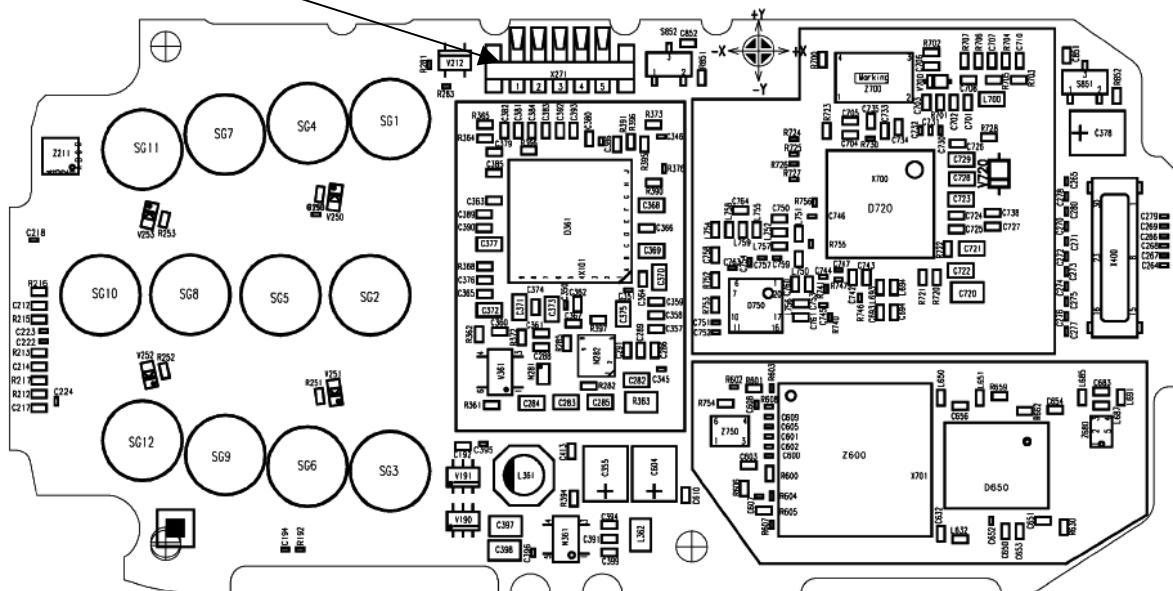
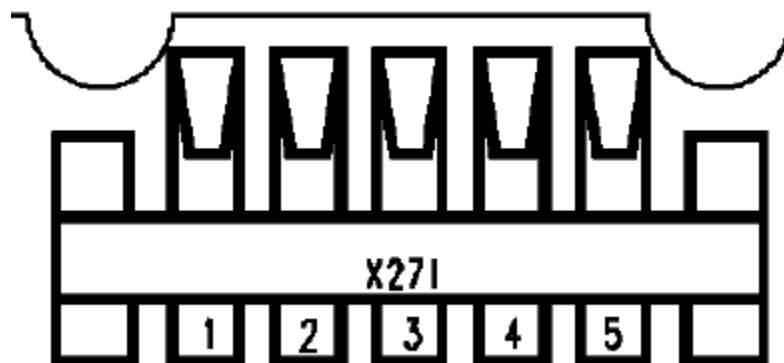


Figure 2: SL55/SL56 sidekey connector placement (top view)



## 5 Antenna Connector

### 5.1 Affected Units

**5.1.1 Type:** SL55/SL56

**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:

Network Search  
No location update possible

#### 5.2.2 Fault Symptoms on GSM Tester:

Output power problems on the internal antenna  
No location update possible

### 5.3 Priority:

- |                                     |                 |
|-------------------------------------|-----------------|
| <input type="checkbox"/>            | Mandatory       |
| <input checked="" type="checkbox"/> | Repair          |
| <input type="checkbox"/>            | Optional        |
| <input type="checkbox"/>            | Not Yet Defined |

## **5.4 Repair Documentation:**

### **5.4.1 Description of procedure:**

#### **5.4.1.1 Diagnosis:**

Check the output power of the handset with the LSO test program!

#### **5.4.1.2 Repair by component change:**

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

Resolder new antenna connector 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:**

Antenna Connector SL55/SL56  
Part-Number: L36197-F5020-F650

#### **5.4.2.2 Jigs and Tools:**

Hot Air Blower  
Soldering Iron

## 5.4.2.3 Special tools:

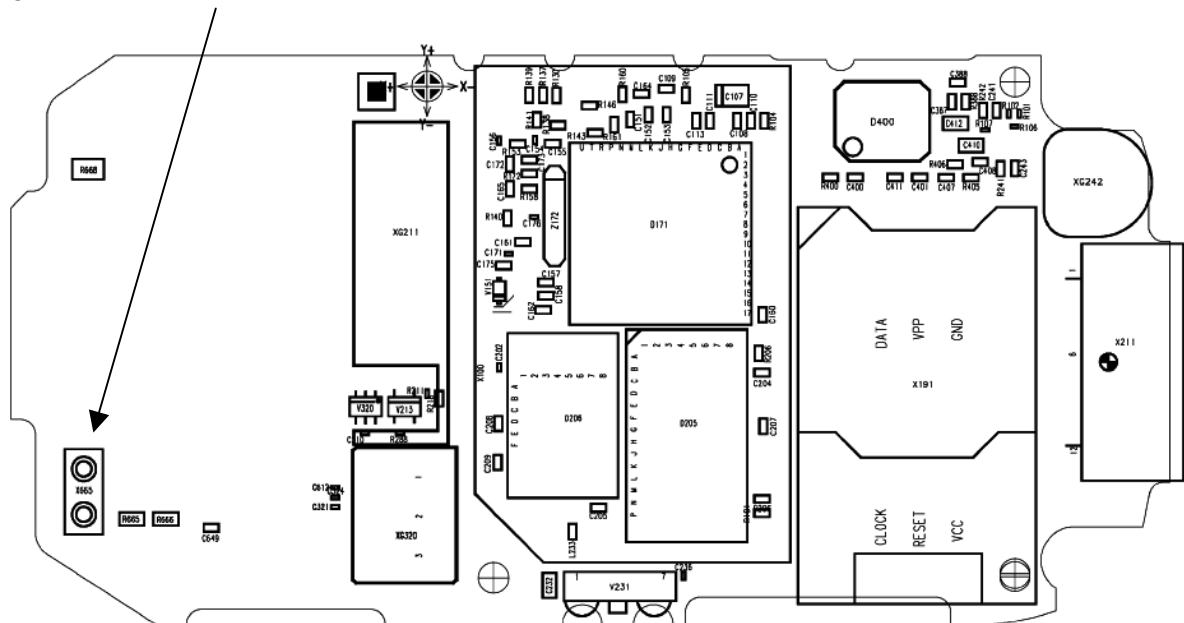
None

## 5.4.2.4 Working materials

Desolder Wick / Braid  
Soldering Iron

## 5.4.3 Drawings

Figure 1: SL55/SL56 board Antenna connector





## 6 Card Reader

### 6.1 Affected Units

**6.1.1 Type:** SL55/SL56

**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:

Handset does not accept SIM.

#### 6.2.2 Fault Symptoms on GSM Tester:

This fault cannot be detected with a GSM-Tester

### 6.3 Priority:

- |                                     |                 |
|-------------------------------------|-----------------|
| <input type="checkbox"/>            | Mandatory       |
| <input checked="" type="checkbox"/> | Repair          |
| <input type="checkbox"/>            | Optional        |
| <input type="checkbox"/>            | Not Yet Defined |

## **6.4 Repair Documentation:**

### **6.4.1 Description of procedure:**

#### **6.4.1.1 Diagnosis:**

Visually check the Card Reader. Watch for dry joints:

#### **6.4.1.2 Repair by component change:**

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

Resolder new Card Reader afterwards.

#### **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:**

Card Reader SL55/SL56  
Part-Number: L36197-F5023-F17

#### **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: SL55/SL56 board Card Reader site

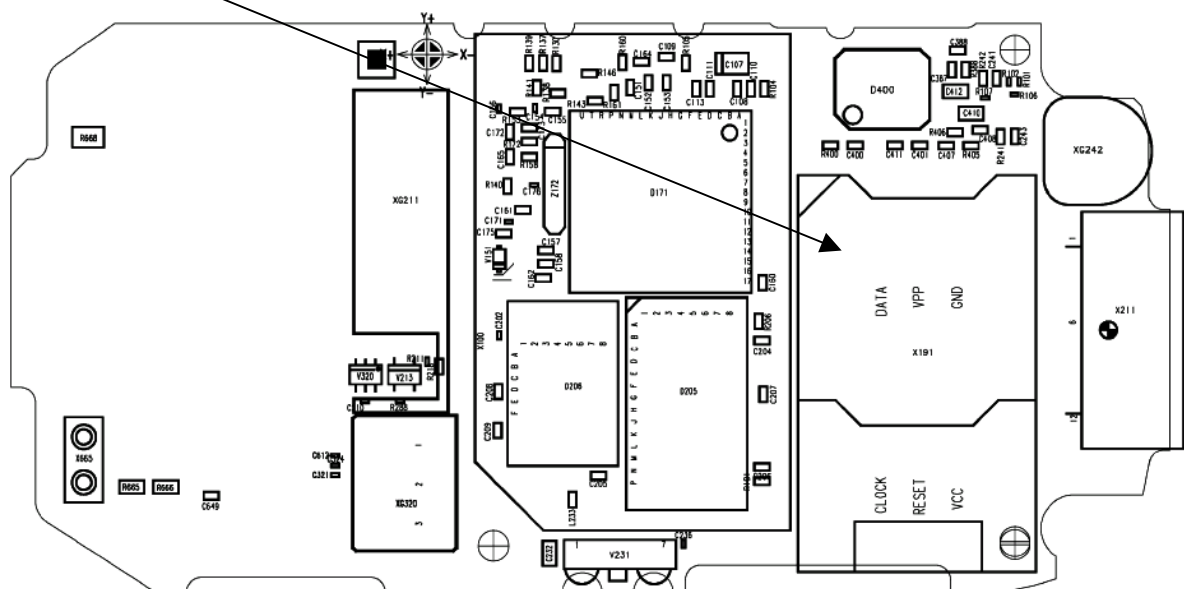
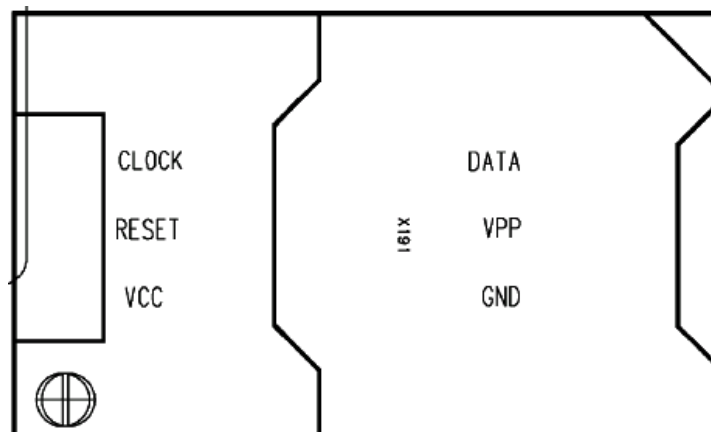


Figure 2: SL55/SL56 Card Reader placement (top view)



## 7 MMI Connector

### 7.1 Affected Units

**7.1.1 Type:** SL55/SL56

**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:

Problems with MMI function like:

Keyboard malfunction  
Illumination problems  
Display problems  
Loudspeaker problems

#### 7.2.2 Fault Symptoms on GSM Tester:

This fault cannot be detected with a GSM Tester

### 7.3 Priority:

- |                                     |                 |
|-------------------------------------|-----------------|
| <input type="checkbox"/>            | Mandatory       |
| <input checked="" type="checkbox"/> | Repair          |
| <input type="checkbox"/>            | Optional        |
| <input type="checkbox"/>            | Not Yet Defined |

## **7.4 Repair Documentation:**

### **7.4.1 Description of procedure:**

#### **7.4.1.1 Diagnosis:**

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

#### **7.4.1.2 Repair by component change:**

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

Resolder new connector 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:**

Board connector SL55/SL56  
Part-Number: L36197-F5008-F398

#### **7.4.2.2 Jigs and Tools:**

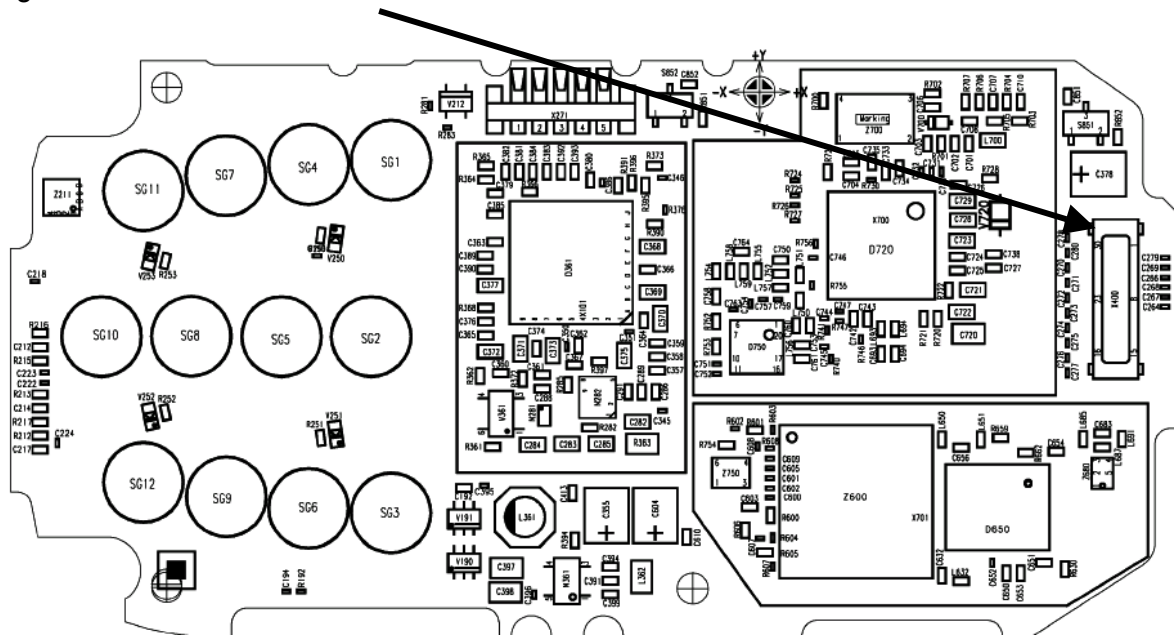
Hot Air Blower  
Soldering Iron

#### **7.4.2.3 Special tools:**

None

## Desolder Wick / Braid Soldering Iron

Figure 1: SL55/SL56 board MMI connector side



A diagram of a rectangular plate with a central rectangular hole. The outer plate has a width of 30 and a height of 8. The central hole has a width of 23 and a height of 6. The dimensions are labeled as follows: 16 (left margin), 23 (hole width), 30 (total width), 15 (bottom margin), 8 (total height), and 1 (bottom margin). The hole is labeled 'X400'.

## 8 IRDA

### 8.1 Affected Units

**8.1.1 Type:** SL55/SL56

**8.1.2 Affected IMEIs / Date Codes:** All / All

**8.1.3 Affected SW Versions:** All

### 8.2 Fault Description

#### 8.2.1 Fault Symptoms for customers:

No infrared connection possible

#### 8.2.2 Fault Symptoms on GSM Tester:

This fault cannot be detected with a GSM Tester

### 8.3 Priority:

- |                                     |                 |
|-------------------------------------|-----------------|
| <input type="checkbox"/>            | Mandatory       |
| <input checked="" type="checkbox"/> | Repair          |
| <input type="checkbox"/>            | Optional        |
| <input type="checkbox"/>            | Not Yet Defined |

## **8.4 Repair Documentation:**

### **8.4.1 Description of procedure:**

#### **8.4.1.1 Diagnosis:**

#### **8.4.1.2 Repair by component change:**

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

Resolder new diode afterwards.

#### **8.4.1.3 Repair by Software booting:**

Not possible!

#### **8.4.1.4 Test:**

Retest handset after repair.

### **8.4.2 List of needed material:**

#### **8.4.2.1 Components:**

IRDA SL55/SL56  
Part-Number: L36197-F5008-F492



## 8.4.2.2 Jigs and Tools:

Hot Air Blower  
Soldering Iron

## 8.4.2.3 Special tools:

None

## 8.4.2.4 Working materials

Desolder Wick / Braid  
Soldering Iron

## 8.4.3 Drawings

Figure 1: SL55/SL56 IRDA side

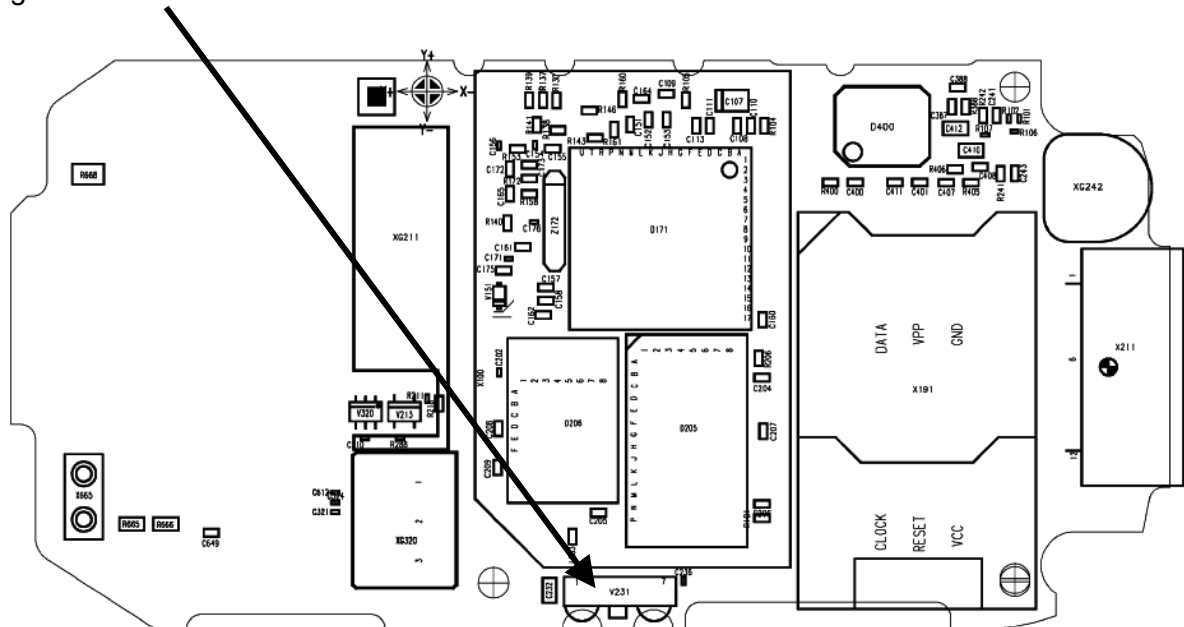
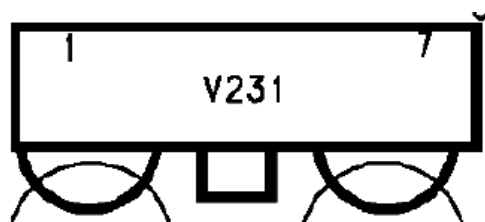


Figure 2: SL55/SL56 IRDA placement (top view)



## 9 Resistor Antenna Circuit

### 9.1 Affected Units

**9.1.1 Type:** S55/S56

**9.1.2 Affected IMEIs / Date Codes:** All / All

**9.1.3 Affected SW Versions:** All

### 9.2 Fault Description

#### 9.2.1 Fault Symptoms for customers:

Network Search  
No location update possible

#### 9.2.2 Fault Symptoms on GSM Tester:

Output power problems on the internal antenna  
No location update possible

### 9.3 Priority:

- |                                     |                 |
|-------------------------------------|-----------------|
| <input type="checkbox"/>            | Mandatory       |
| <input checked="" type="checkbox"/> | Repair          |
| <input type="checkbox"/>            | Optional        |
| <input type="checkbox"/>            | Not Yet Defined |

## **9.4 Repair Documentation:**

### **9.4.1 Description of procedure:**

#### **9.4.1.1 Diagnosis:**

Use the ohm test function of a multimeter to check the value of the resistors. The resistors must have a resistance of  $0\Omega$  when testing the resistors with the ohmmeter

#### **9.4.1.2 Repair by component change:**

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

Resolder new resistor afterwards.

#### **9.4.1.3 Repair by Software booting:**

Not possible!

#### **9.4.1.4 Test:**

Retest handset after repair.

### **9.4.2 List of needed material:**

#### **9.4.2.1 Components:**

Antenna Resistor SL55/SL56  
Part-Number: L36246-F4000-G

#### 9.4.2.2 Jigs and Tools:

## Hot Air Blower Soldering Iron

### 9.4.2.3 Special tools:

None

#### 9.4.2.4 Working materials

Desolder Wick / Braid  
Soldering Iron

### 9.4.3 Drawings

Figure 1: SL55/SL56 antenna resistor side

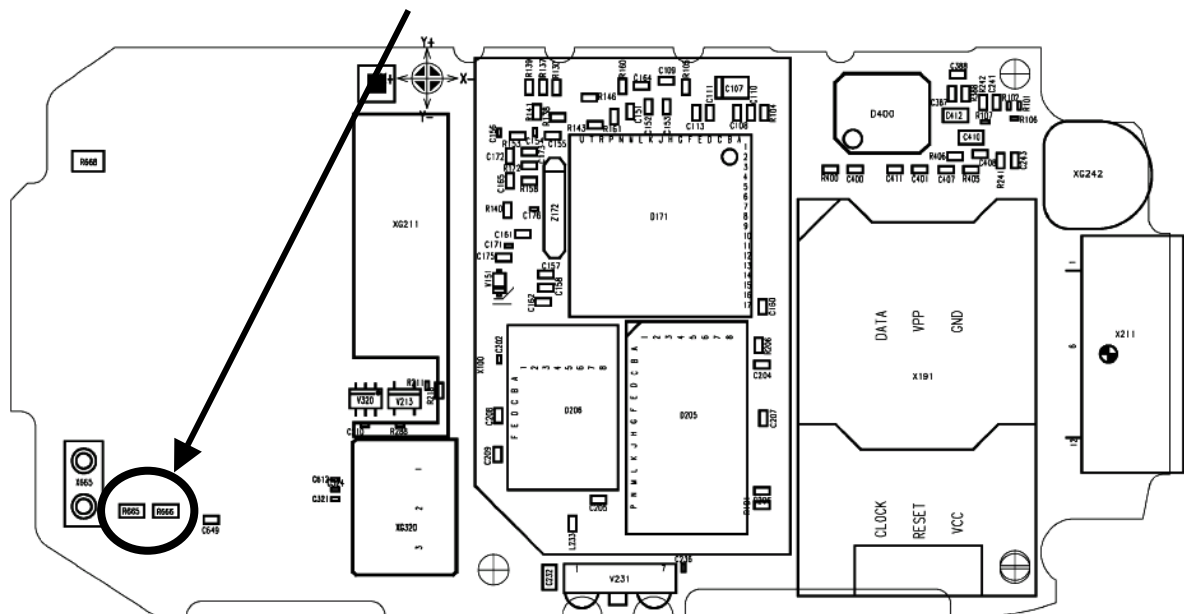


Figure 2: SL55/SL56 Antenna resistor placement (top view)

