

Application Note
Debug interface when using
Embedded applications
with GT47-GT48

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Contents

1	INTRODUCTION.....	4
2	MODIFICATION OF THE HARDWARE INTERFACE FOR THE GT47	5
2.1	ASSEMBLY PICTURE.....	5
2.2	SOLDER PADS DESCRIPTION:	6
2.3	OPERATION DESCRIPTION:	6
3	REFERENCES.....	7

1 Introduction

When using the GT47 with embedded applications, due to the hardware configuration the debugging information is not normally available.

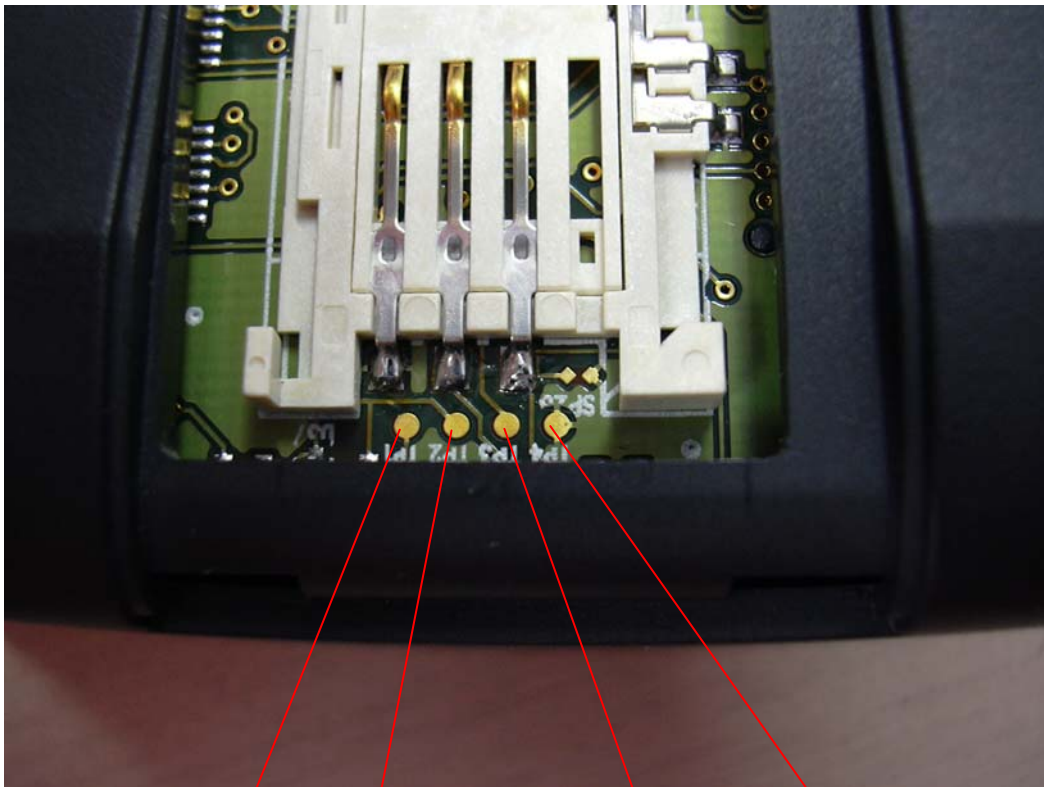
However it is possible to do this if a level shifter is attached to certain points on the GT47 PCB, this application note shows how this is done.

2 Modification of the hardware interface for the GT47

The required modification to the GT 47 is described here, this should only be done to development units

This feature is used if a customer wants to operate the GT47 in his embedded environment with the SIM card inserted.

2.1 Assembly picture



GT47/GT48 Motherboard showing solderable pads by SIM card holder

Pad 1:
internal GT47
3.8V Supply

Pad 2:
Enable debug mode
after shortening to
3.8V Supply

Pad 4:
Signal GND

Pad 3:
serial debug
data stream
(RD3)

To solder the wires for the GT47 debug interface the GT47 SIM-card needs to be removed and four wires must be soldered to the main PCB as shown in the picture above.

2.2 Solder pads description:

The solder pads are described as pad 1-4 in the picture above. The following signals are available on the solder pads:

- Pad 1 - The GT47 internal power supply of 3.8V (NOTE : This does not have short circuit protection).
- Pad 2 - Enable input for activating the debug mode. This pad must be connected to the 3.8V supply for activation.
- Pad 3 - Debug data stream from GR47 UART2 RD pin.
- Pad 4 - GT47 system ground.

2.3 Operation description:

For the operation of the GT47 debug port the following interface should be soldered to the GT47:

Connect pad 1 directly to pad 2.

Attach a RS232 level shifter (e.g. MAX3232) to pad 3 for converting 2.7V RD signal to RS232 signal levels. The supply voltage of 3.8V and GND can be used for supplying the level shifter.

A level shifter is recommended in the application note 'RS232 interface for GT47-GT48 Embedded applications UART'.

Note: The current consumption on pad 1 must not exceed 50mA.

These modifications should only be performed by skilled and trained personal.

All signals on the pads are not short circuit proof and do not have any ESD protection.

3 References

1. LZT 123 7698 Application Note - RS232 interface for GT47-GT48 Embedded applications UART'