FALCOM
WIRELESS COMMUNICATIONS GMBH

Smart Antenna

FSA03

Application Notes

Version: 1.0.2; Last Modified: Thursday 18 February 2010

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Version history:

This table provides a summary of the document revisions.

Number	Author	Changes	Modified
1.0.2	F. Beqiri	- Added side view	18/02/2010
1.0.1	F. Beqiri	- Updated chapter "*Soldering method*"	05/05/2009
1.0.0	F. Beqiri	- Initial version	07/10/2008

1 INTRODUCTION

This application note comprises a brief description of the operation of the FALCOM Smart Antenna FSA03, the Pad-Design and an application circuit.

1.1 General

The Smart Antenna operates from internal ROM.

1.2 Technical data (in brief)

*The FSA03 architecture is based on the UBX-G5010 single chip from **u-blox**, for more information about this chip and the u-blox5 protocol specifications, please refer to the u-blox website: www.u-blox.com*

- ***Temperature Range:***
  - *Operation: -40 to 85°C .*
- ***Directive:***
  - *RoHS compliant (lead-free) and green (no halogens).*
- ***ROM:***
  - *Output NMEA messages.*
    - ✔ *Baudrate: 9600 bps,*
    - ✔ *RMC, GGA, GSA, GSV, VTG, GLL*

1.3 Signal levels

The names and position of the pads can be seen from the Pad-Design, which is added in chapter 3, "Schematics". The NC-pins in this schematic are not connected.

Pin name	Level	Function
RES	3.3 V CMOS	Input
TM	3.3 V CMOS	Output
VBATT	1.4 V – 4.8 VDC	Input
GND	0 V	-
VCC	3.3 VDC ±5 %	Input
GND	0 V	-
TX	3.3 V CMOS	Output
RX	3.3 V CMOS	Input

Table 1: Signal levels and their function

2 SECURITY

This chapter contains important information for the safe and reliable use of the GPS receiver. Please read this chapter carefully before starting to use this GPS receiver.

2.1 Electrostatic Discharge (ESD)

The FSA03 Smart Antenna contains class 1 devices. The FSA03 Smart Antenna contains components that can be damaged or destroyed by electrostatic discharge. When handling the module, observe the necessary safety precautions against electrostatic discharge (ESD), in accordance with EN 61340-5-1 and the following. The following Electrostatic Discharge (ESD) precautions are recommended:

- *Protective outer garments.*
- *Handle device in ESD safeguarded work area.*
- *Transport device in ESD shielded containers.*
- *Monitor and test all ESD protection equipment.*
- *Treat the FSA03 Smart Antenna as extremely sensitive to ESD.*

2.2 Soldering method

The FSA03 Smart Antenna must be soldered only manually with a soldering iron. The soldered connection / pad design should be in accordance with IPC-A-610D - Chapter 8.2.4.

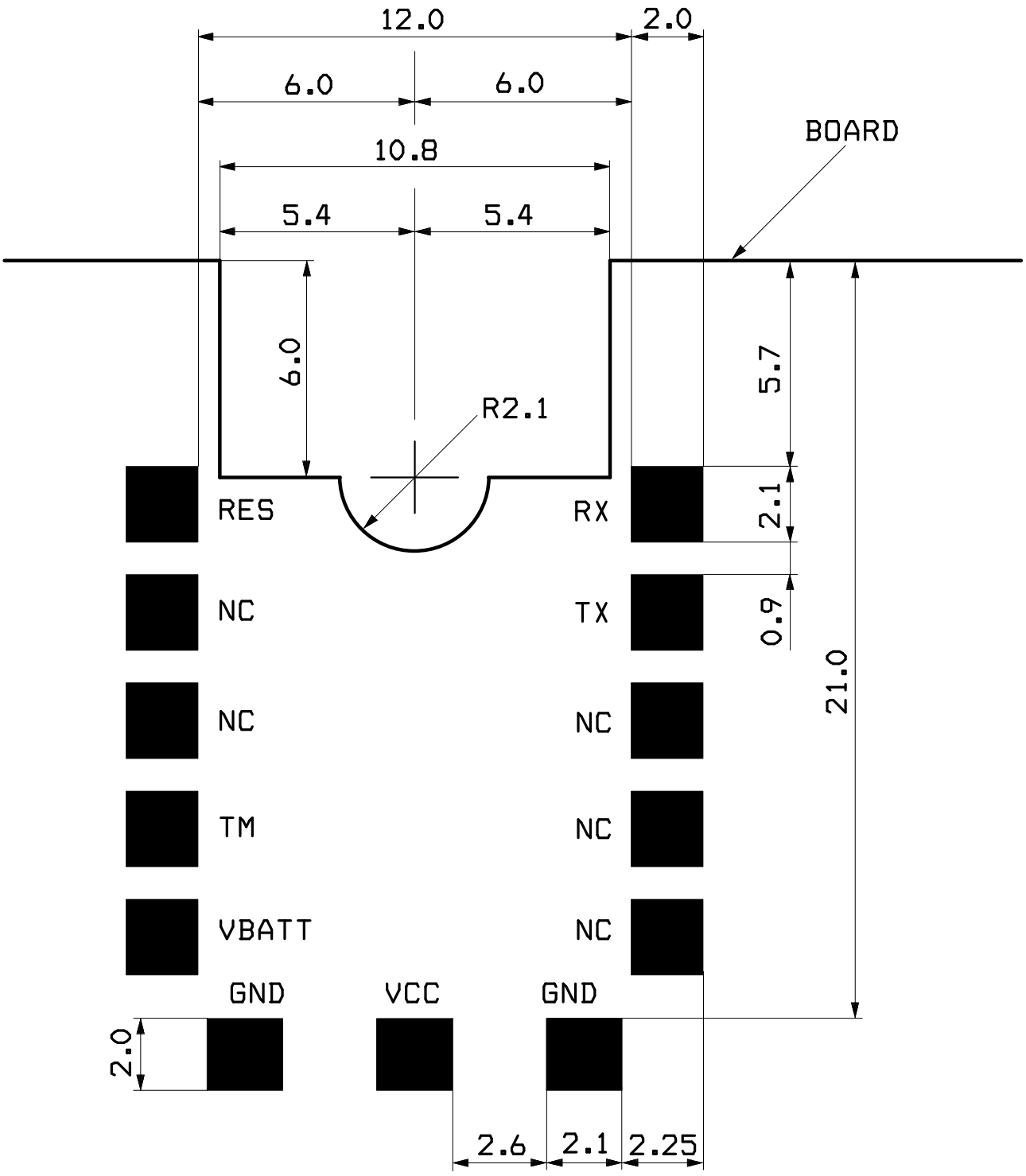
References

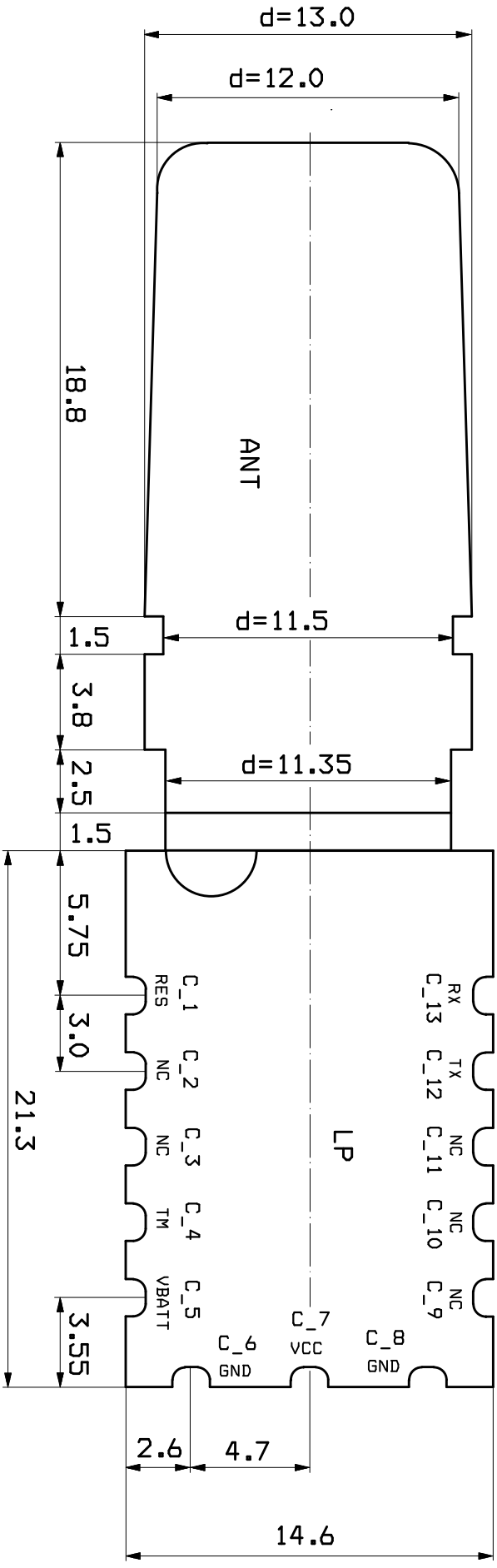
Customers may refer to following IPC standard for more details:

- *IPC-A-610D chapter 8.2.4, "Castellated Terminations".*

Pad-design FSA03

Note: no ground under the component

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RES
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NC
C_3
NC
C_4
TM
C_5
VBATT
C_6
GND
C_7
VCC
C_8
GND
C_9
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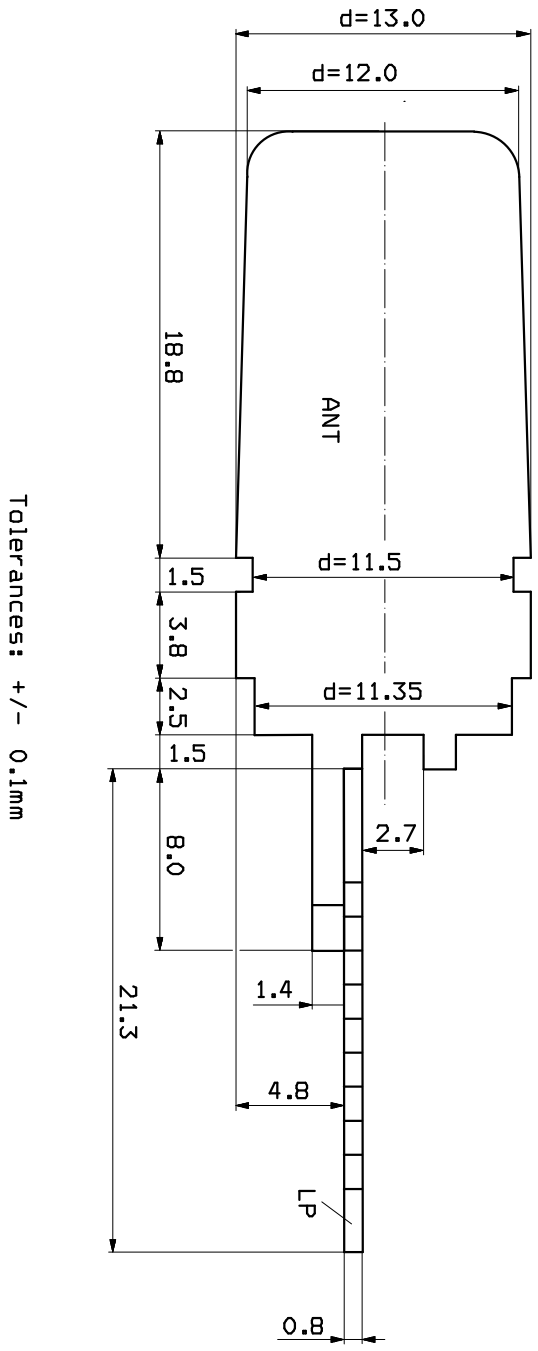
C_12
TX
C_13
RX
LP
2.6
4.7
14.6

Side View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21.3
1.4
4.8
LP
0.8
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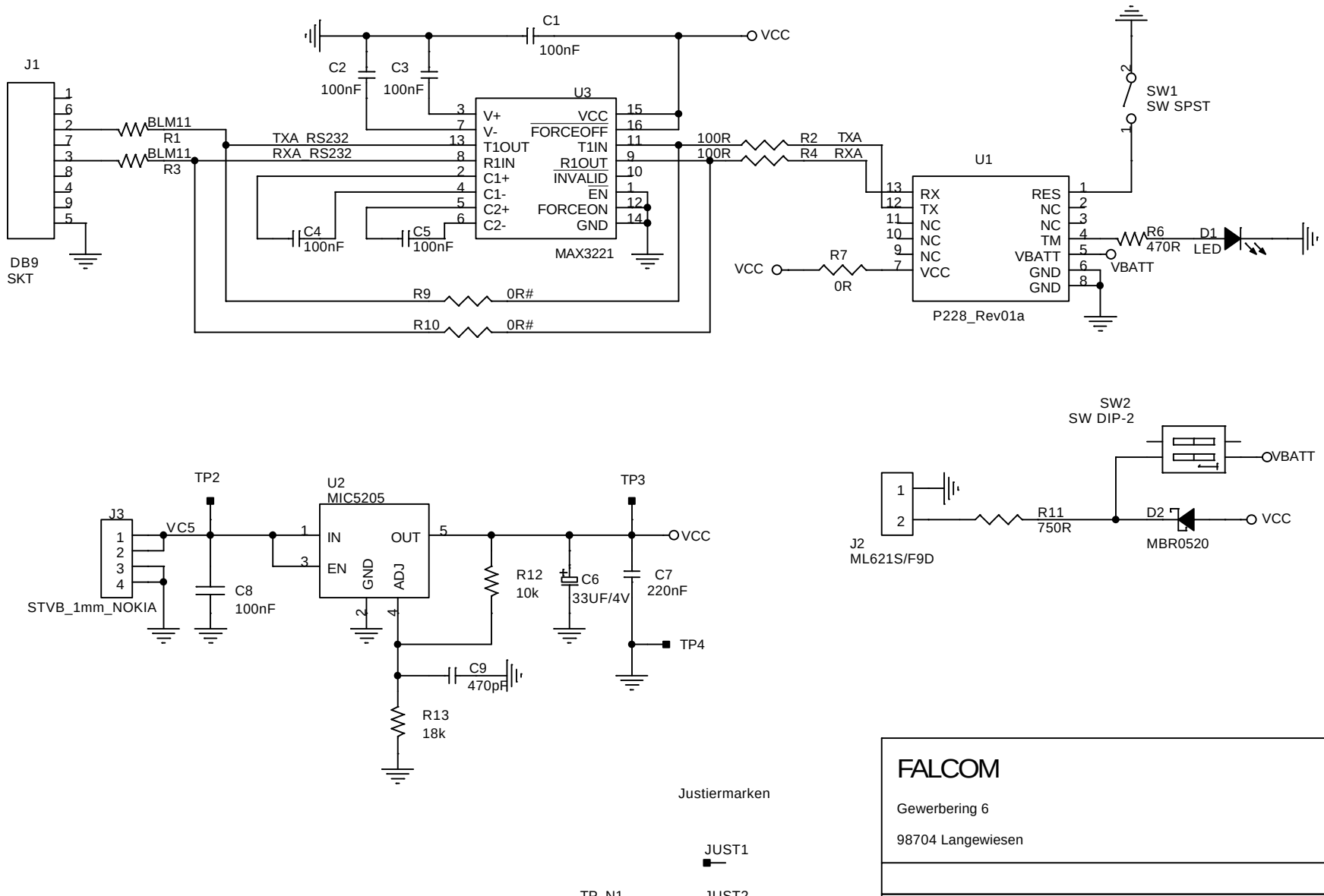

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