



Application Notes – RF shield GPS Receivers A1080

A description of RF-shielding for A1080-A/B

Application Notes

**Version 1.1
Hardware Revisions 02+**

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Revision History

Rev.	Date	Description
1.0	12-17-07	Initial version
1.1	02-14-07	Minor corrections
	mm-dd-yy	

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Table of Contents

1 Introduction	7
2 Temperature Fluctuation	7
3 RF interference	7
4 RF shield details	8
4.1 Construction	8
4.2 Solder pads for RF shield	9
5 Ordering Information	10
5.1 RF shield for GPS Receivers A1080	10
5.2 Packaging information	10
6 Related Information	10
6.1 Contact	10
6.2 Related Documents	10

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1 Introduction

The intention of this application note is to explain when and why RF-shielding of the A1080-A/B might be helpful.

2 Temperature Fluctuation

As described in the A1080 manual, airflow can generate temperature fluctuation on the module. Temperature fluctuation has a negative impact on the performance of the module as the frequency of the TCXO can be affected due to the rapid change. In this case an RF shield is recommended.

3 RF interference

GPS receiver modules have to acquire and track very weak signals at a frequency of approximately 1.575GHz. Typical satellite signal power on the surface on earth is in the range from -130dBm to -160dBm. The natural background noise is in the range of -174dBm on the surface on earth (at about 20 degree Celsius).

At least a C/N0 (Carrier to Noise ratio) of 32dB/Hz is required to acquire satellite signals and download the Ephemeris and Almanac data (without A-GPS methods).

RF interference caused by electrical components close to the receiver modules should be prevented if possible.

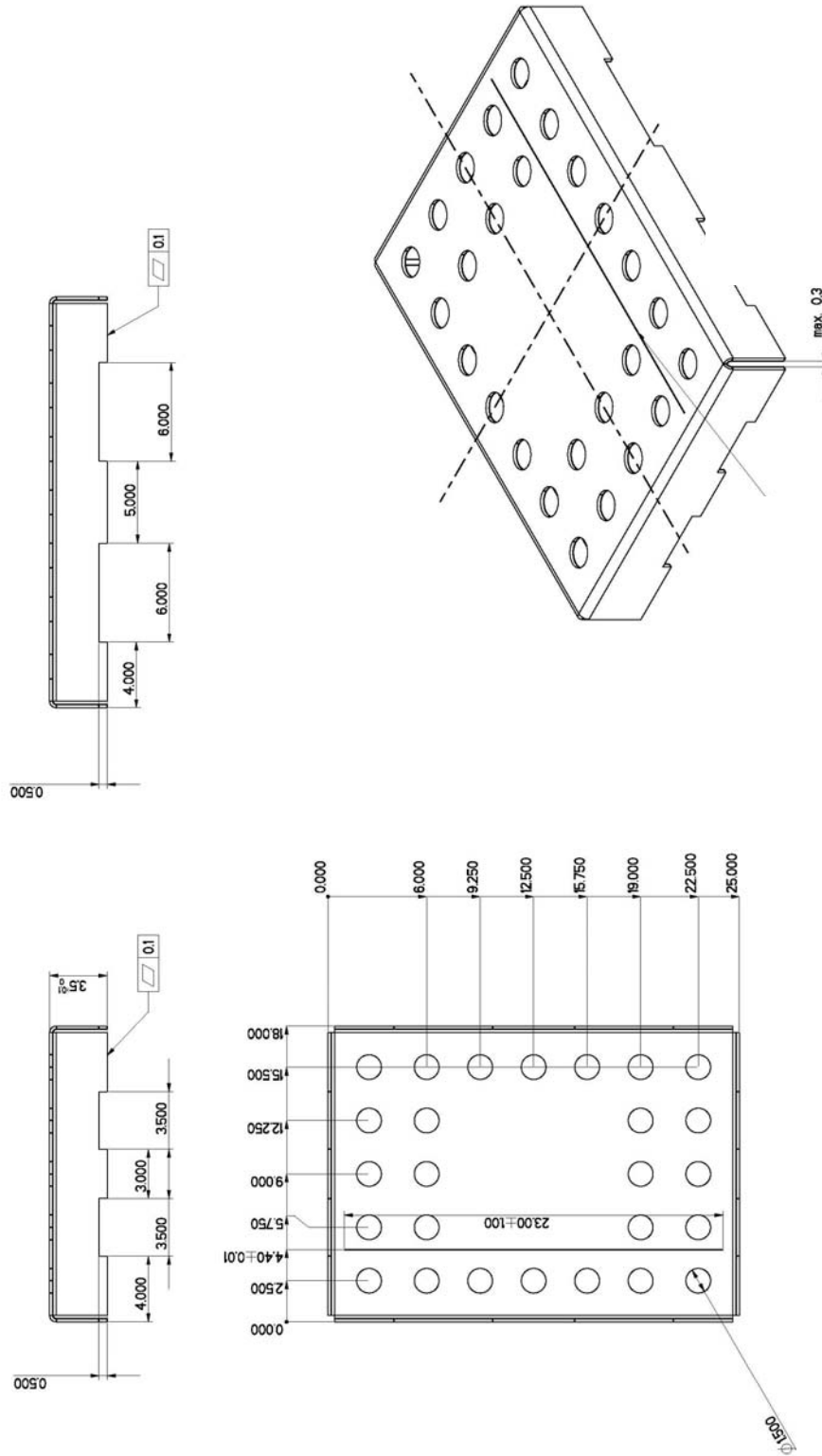
Please note: Even signal power of higher harmonics may interfere the GPS receiver module.

Protecting the GPS receiver module by using an RF shield may help in case RF interference cannot be avoided.

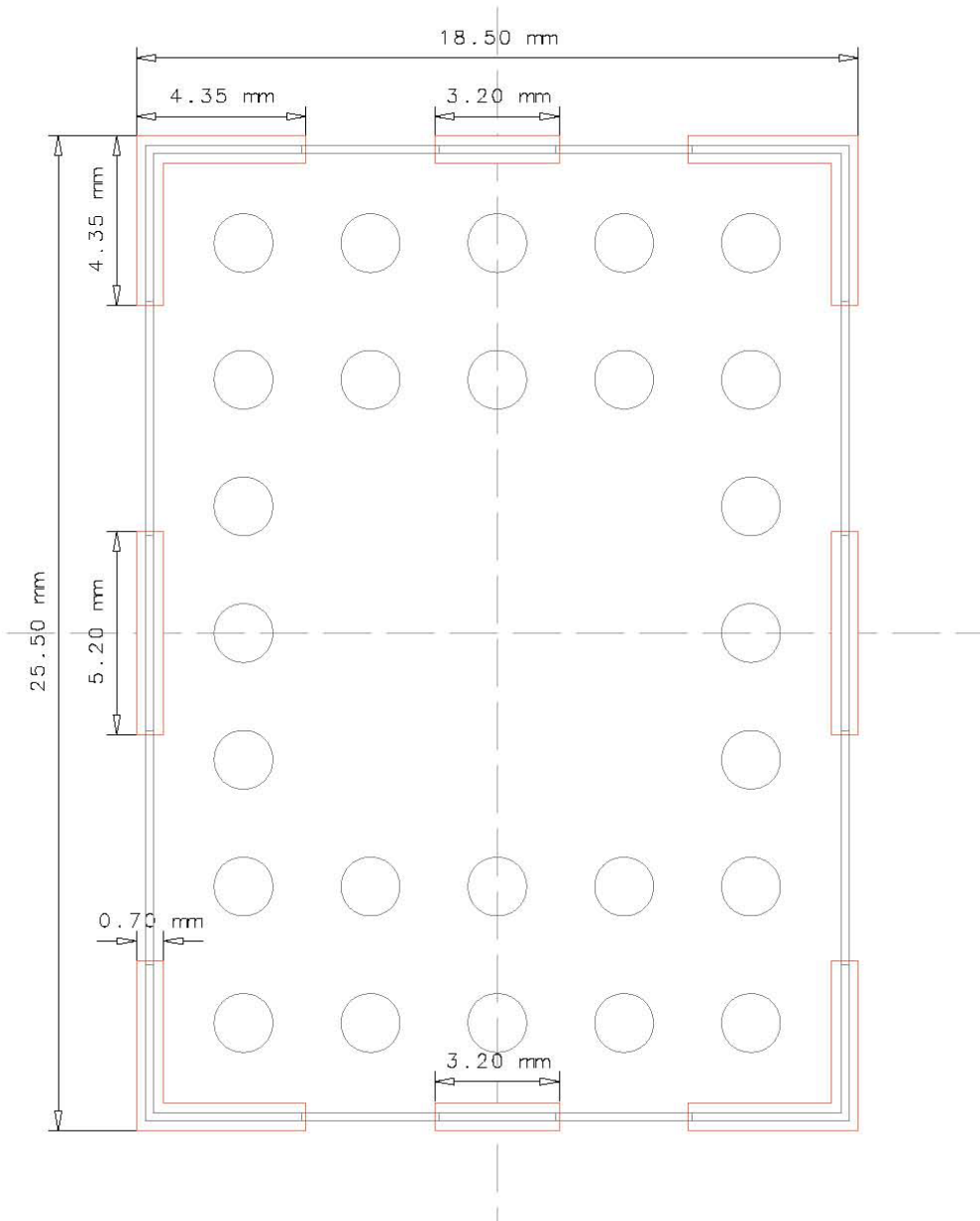
Please note: RF shield will not help if the interference reaches the GPS receiver via the GPS antenna.


4 RF shield details

4.1 Construction



4.2 Solder pads for RF shield



 Solder paste pads

5 Ordering Information

5.1 RF shield for GPS Receivers A1080

The order number is:

- CC848822255

5.2 Packaging information

The RF shield comes in trays.

6 Related Information

6.1 Contact

This manual was created with due diligence. We hope that it will be helpful to the user to get the most out of the GPS module.

Anyway, inputs about errors or mistakable verbalizations and comments or proposals to TYCO Electronics, Power Systems in Munich, Germany, for further improvements are highly appreciated.

Tyco Electronics Power Systems

Finsinger Feld 1
85521 Ottobrunn, Germany
Tel.: +49 89 6089 838
Fax: +49 89 6089 835
gps@tycoelectronics.com.
<http://www.tycoelectronics.com/gps>.

Further contact addresses:

info.gps@tycoelectronics.com.
support.gps@tycoelectronics.com.
sales.gps@tycoelectronics.com.

6.2 Related Documents

- Manual: T.E. GPS Receiver A1080 (TYCO)

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