

Technical Report - FCC-ID: RFDGFU18



No 040115QM

From Gerhard Schwärzler
Date December 01, 2003

Leica Geosystems AG
Heinrich-Wild-Strasse
CH-9435 Heerbrugg
(Switzerland)

To Federal Communications Commission
Equipment Approval Services
Post Office Box 358315
Pittsburgh, PA 15262-0001

www.leica-geosystems.com

Copy to ---

Subject **Application for Equipment Authorization for GFU18**

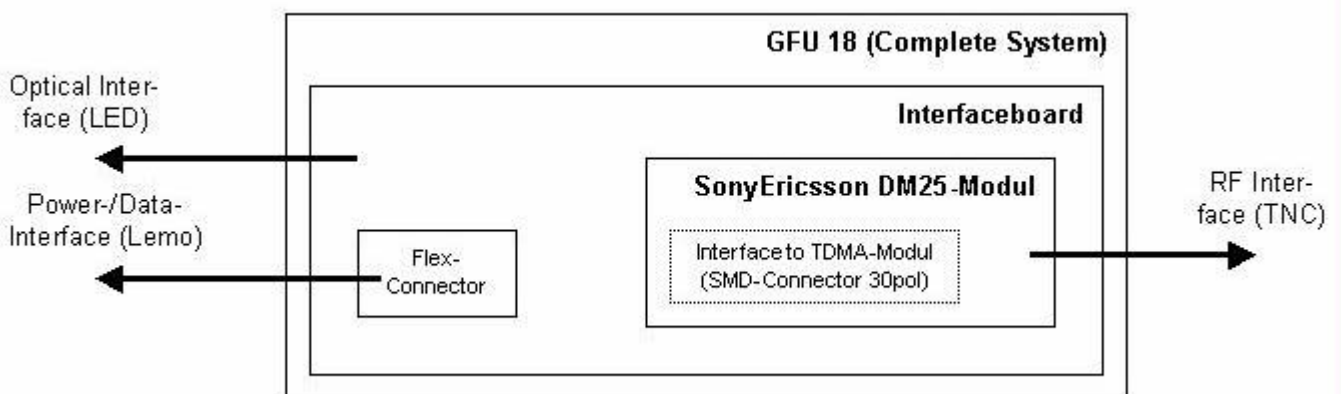
1) Description

Application is submitted for certification of GFU18, a TDMA module for data transmission in a GPS surveying application named GPS1200 (please refer to the GPS1200 User Manual for detailed information).

2) Block Diagram

Core piece of the GFU18 is the FCC certified SonyEricsson DM25 module (FCC-ID: PXITR-505-A2), which is mounted on an interface board.

The Interface board ensures the adaptation between the SonyEricsson DM25 module and the GPS1200 system, with respect to power supply and interface communication. Our application does not affect or alter the original characteristics of the SonyEricsson DM25 module.



3) Schematic Diagram of Interface Board

Please see the attached files "Schematic Diagram Interfaceboard 737384 1" and "Schematic Diagram Interfaceboard 737384 2".

4) Technical Specification and Details

The GFU18 housing adapts the SonyEricsson DM25 module mechanically to the GPS1200 surveying system application and serves as protection against environmental influences.

The external antenna is a zero dBi type and does not amplify the standard signal of the SonyEricsson DM25 module. Please see attached file "Antenna_800&1900" for details.

All data listed in this application, such as RF emission, frequency range, output power, emission designation, are based on the SonyEricsson DM25 module (FCC-ID: PXITR-505-A2).

According to this conclusion, our application information is basically focused on the other portions of the GFU18, such as interface board, labeling, housing and antenna.

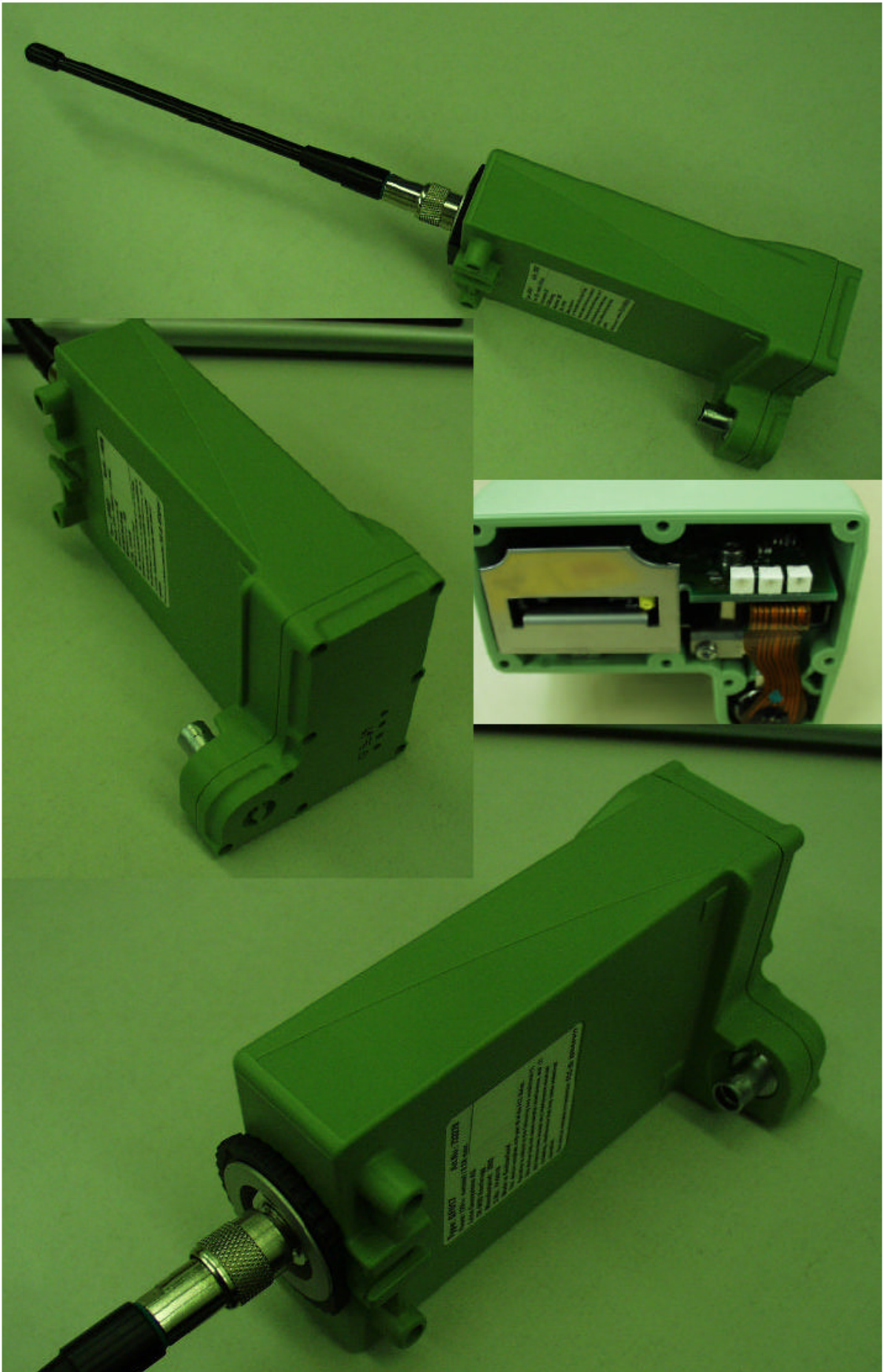
Further we have included an EMC emission report, which also shows the Radiofrequency Radiation Exposure Evaluation calculation.

5) Labeling

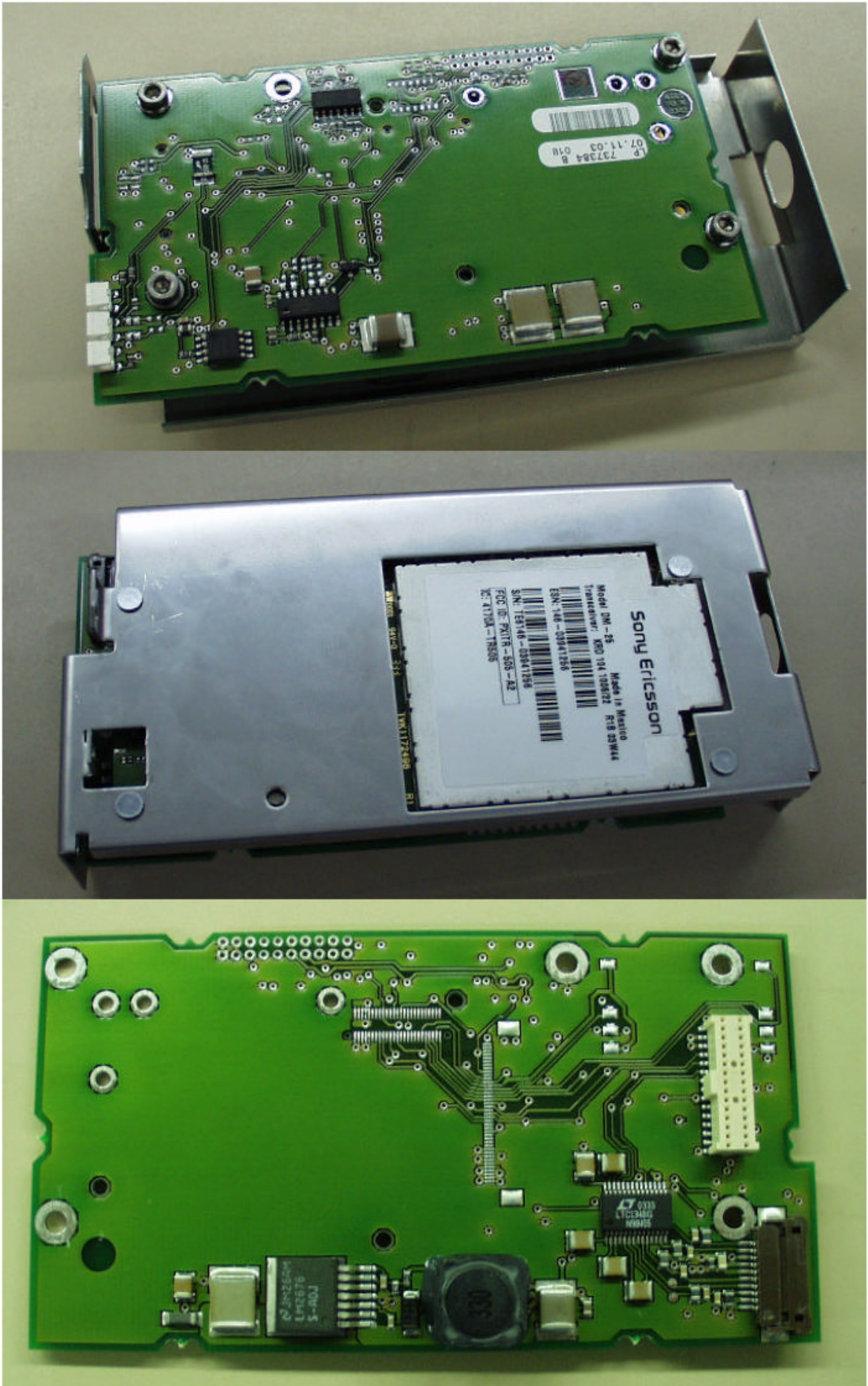


6) Pictures

External Pictures: GFU18



Internal Pictures: Interfaceboard - three different views



7) EMC Emission of GFU18

The attached file "EMV2003 Datalink 01" shows the EMC emission of the GPS1200 system for the separate utilization of the three data transmission modules:

- 1) GFU14 (no FCC approval filed)
- 2) GFU17 (filed for FCC approval under RFDGFU17)
- 3) GFU18 (filed for FCC approval under RFDGFU18)

8) RF Radiation Exposure Evaluation Calculation of GFU18

The separation distance between body and antenna in our GPS1200 application is at least 20cm (typically >30cm). Therefore our consideration of RF exposure for the GFU18 is fully based on the attached report "Evaluation of RF exposure for the DM25 module", which was originally filed by SonyEricsson under FCC-ID "PXITR-505-A2", and the fact that we are using a zero dBi antenna.