Technical Report - FCC-ID: RFDGFU17

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

www.leica-geosystems.com

No 040117QM

From Gerhard Schwärzler
Date December 01, 2003

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

Copy to ---

Subject **Application for Equipment Authorization for GFU17**

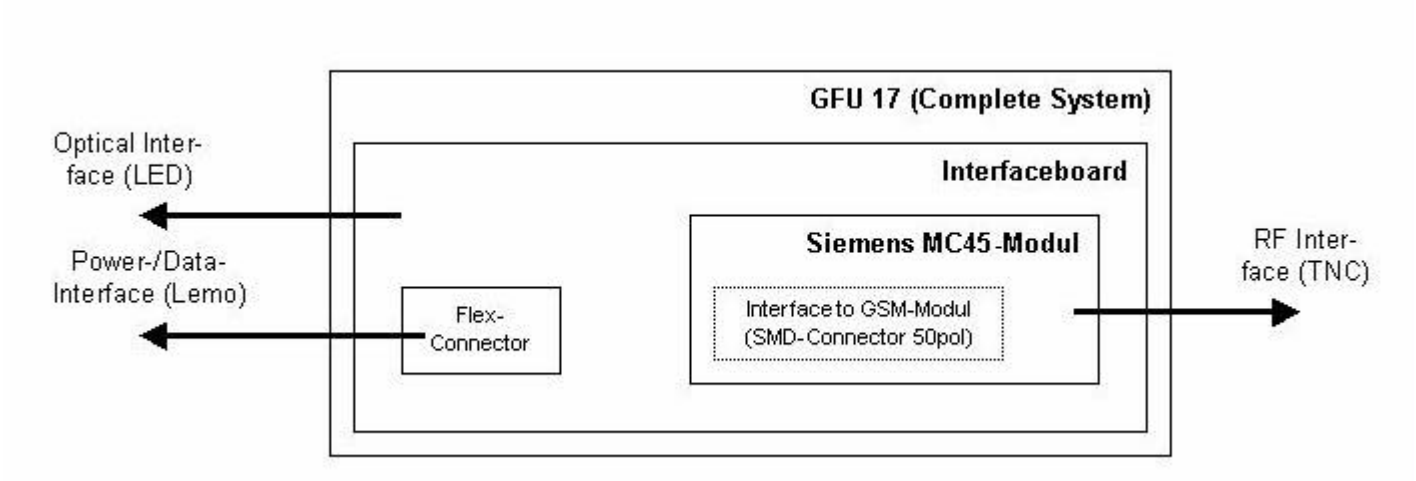
1) Description

Application is submitted for certification of GFU17, a GSM 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 GFU17 is the FCC certified Siemens MC45 module (FCC-ID: QIPMC45), which is mounted on an interface board.

The Interface board ensures the adaptation between the Siemens MC45 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 Siemens MC45 module.



3) Schematic Diagram of Interface Board

Please see the attached files “Schematic Diagram Interfaceboard 737383 1” and “Schematic Diagram Interfaceboard 737383 2”.

4) Technical Specification and Details

The GFU17 housing adapts the Siemens MC45 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 Siemens MC45 module. Please see attached file “Antenna_800&1900” for details.

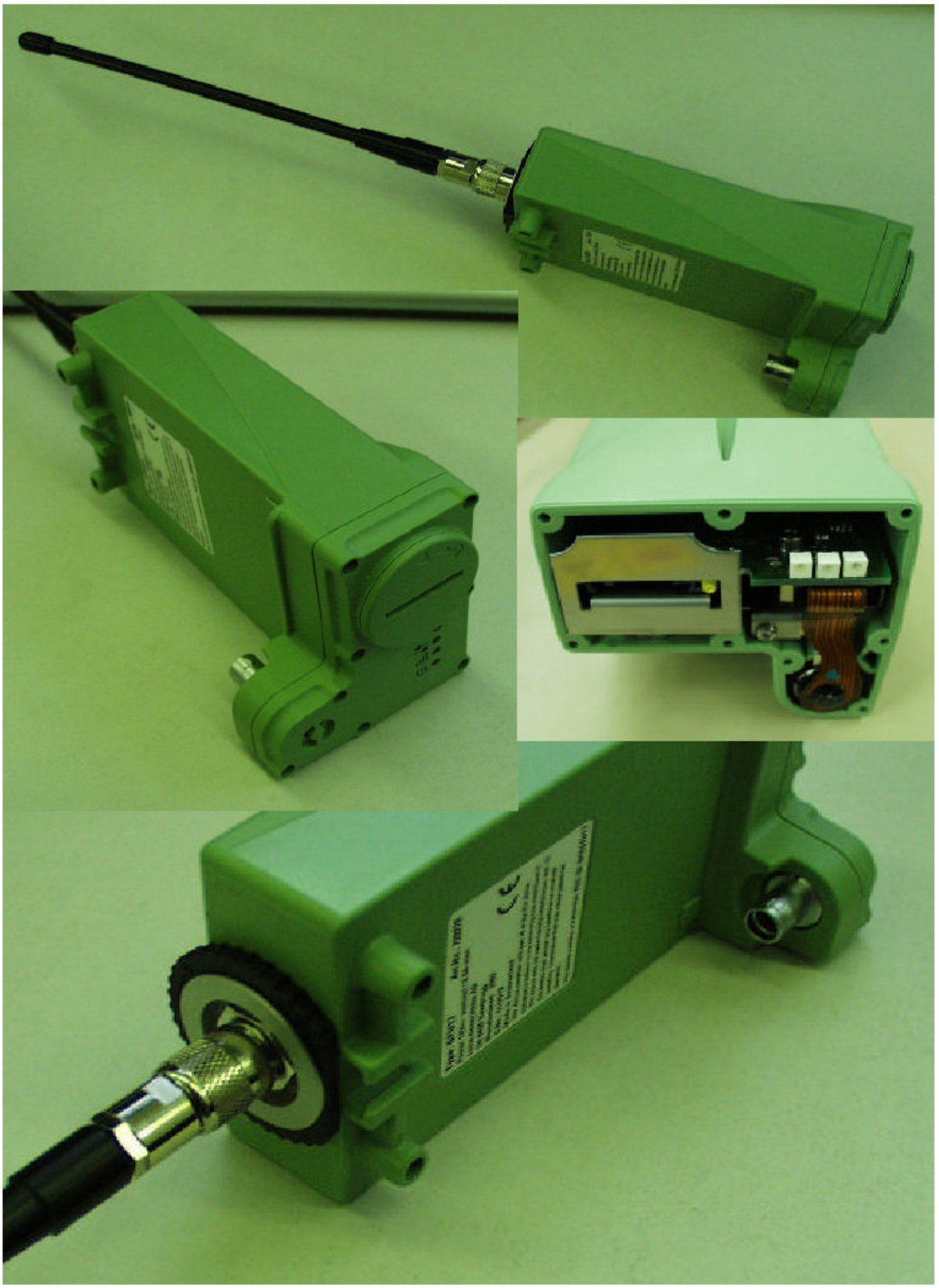
All data listed in this application, such as RF emission, frequency range, output power, emission designation, are based on the Siemens MC45 module (FCC-ID: QIPMC45).
According to this conclusion, our application information is basically focused on the other portions of the GFU17, such as interface board, labeling, housing and antenna.

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

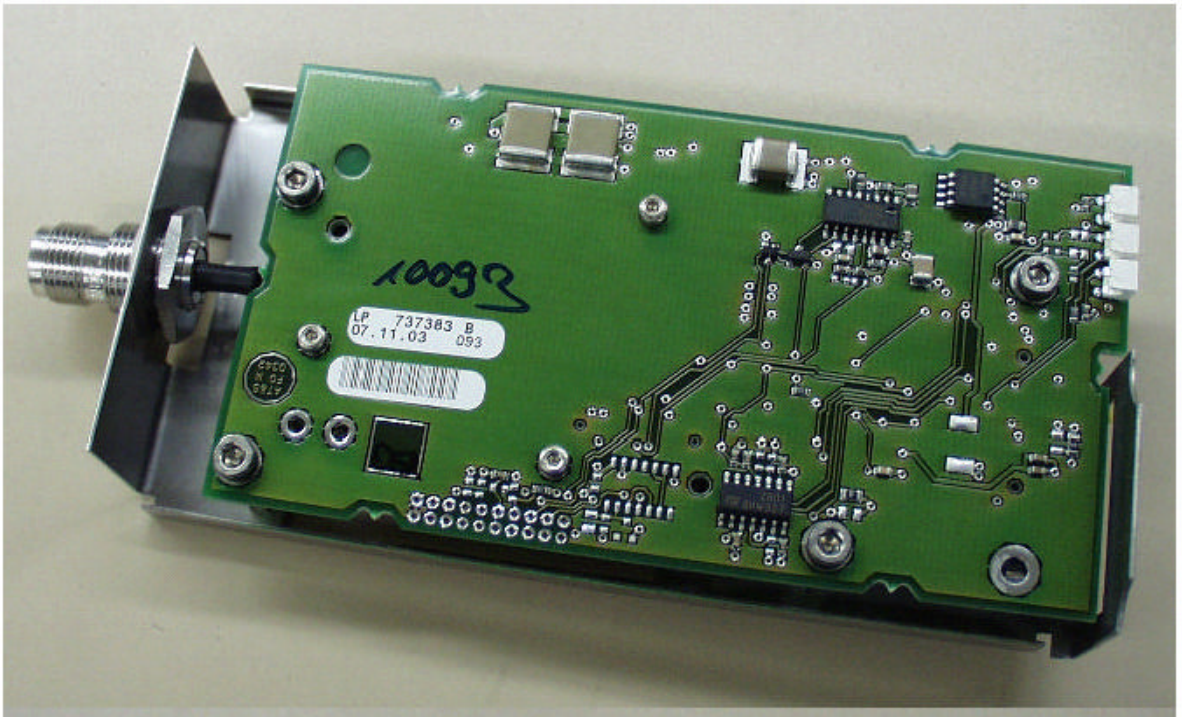
5) Labeling

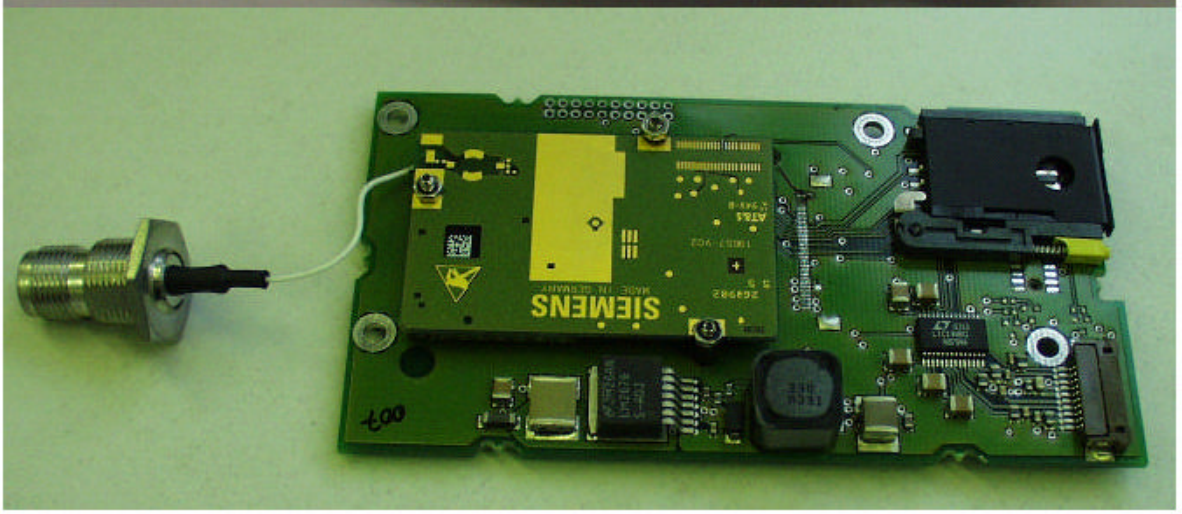
6) Pictures

External Pictures: GFU17



Internal Pictures: Interfaceboard - three different views





7) EMC Emission of GFU17

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

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

8) RF Radiation Exposure Evaluation Calculation of GFU17

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 GFU17 is fully based on the attached report “Prediction of MPE limit at given distance”, which was originally filed by Siemens AG under FCC-ID “QIPMC45”, and the fact that we are using a zero dBi antenna.