

## I. Personal and study details

Student's name: **Geib Filip** Personal ID number: **483567**

Faculty / Institute: **Faculty of Electrical Engineering**

Department / Institute: **Department of Measurement**

Study program: **Cybernetics and Robotics**

## II. Bachelor's thesis details

Bachelor's thesis title in English:

**On-board computer for PC104 format CubeSats**

Bachelor's thesis title in Czech:

**Palubní počítač pro CubeSaty formátu PC104**

Guidelines:

- Design a concept of an STM32 based on-board computer for PC104 frame based CubeSats.
- Implement redundancy for the critical components to improve reliability of the design.
- Construct the device and conduct testing of the whole system, e.g. using a flatsat platform.
- Concentrate on providing detailed and accurate documentation of the system.

Bibliography / sources:

- [1] Anil K. Maini et al.: "Satellite Technology: Principles and Applications", John Wiley & Sons, Incorporated, 2014
- [2] Ahmet Bindal: "Electronics for Embedded Systems", Springer International Publishing, Switzerland 2017
- [3] Report Concerning Space Data System Standards, Mission Operations Services Concept, CCSDS 520.0-G-3, Consultative Committee for Space Data Systems, Washington, DC, USA, 2020
- [4] Dogan Ibrahim: "ARM-Based Microcontroller Projects Using Mbed", Elsevier Science & Technology, 2019

Name and workplace of bachelor's thesis supervisor:

**Ing. Vojtěch Petrucha, Ph.D., 13138**

Name and workplace of second bachelor's thesis supervisor or consultant:

Date of bachelor's thesis assignment: **13.01.2021** Deadline for bachelor thesis submission: \_\_\_\_\_

Assignment valid until:

**by the end of summer semester 2021/2022**

Ing. Vojtěch Petrucha, Ph.D.  
Supervisor's signature

Head of department's signature

prof. Mgr. Petr Páta, Ph.D.  
Dean's signature

## III. Assignment receipt

The student acknowledges that the bachelor's thesis is an individual work. The student must produce his thesis without the assistance of others, with the exception of provided consultations. Within the bachelor's thesis, the author must state the names of consultants and include a list of references.

\_\_\_\_\_  
Date of assignment receipt

\_\_\_\_\_  
Student's signature