Experiment Questionnaire
1.2

MORABA
MOBILE RAKETENBASIS

Space Operations and Astronaut Training

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Instructions

- Please fill in this form electronically, save it and send it back to us.
- If certain information is not available leave it out, fill in the rest and send it anyway.
- As soon as more information is available fill in the blanks of the same form an send it again.
- If there are updates later on to already sent information, you are welcome to edit this form an resend it.
- The answers to this form are computer readable. Any changes to the PDF other than filling in the fields will degrade the readability.
- Please do not print this form, not even electronically.
- Please do not convert the PDF to other formats e.g. MS Word.
- Please do not add extra text fields.
- If there are technical problems, please let us know.
- If it is not clear what to fill in, please let us know.
- If you are missing options please let us know.
- Please do not use thousands separator when typing numbers
- Please fill in the **minimum** requirements for your experiment to function. Desired parameters may be addressed in the free text areas.
- If you do not have a requirement for a certain parameter, please leave the corresponding field empty.

1 Introduction

Date: DD . MM . YYYY

1.1 Name

Short Experiment Name (Acronym):

Full Experiment Title:

Organisation:

Mission: **Nr:**

Short Experiment Description:

1.2 Contacts

Name	Responsibility	Email	Phone (optional)	Campaign Participation

1.3 Shipping Address

In order to send you test equipment or parts of your equipment after campaign we require the shipping address of your organisation.

1.4 Remarks

- Please also provide a picture or CAD drawing of your experiment.

2 Electrical

2.1 Requirements

2.1.1 Power

In this section please state power requirements towards the service module. If you do not require power or charging from the Service Module e.g. because you use your own batteries or you have a separate umbillical please leave the corresponding fields empty:

Power Supply Required:	
Inrush Current [A]:	
Average Power Consumption [W]:	
Peak Power Consumption [W]:	
Total Energy Consumption [Wh]:	

Extra Batteries:	
Charging Required:	
Charging Current [A]:	
Inrush Current [A]:	

2.1.2 Umbilical

Do you use at least one separate umbilical directly connected to your experiment modul?

Separate Umbillical(s):

If yes, please state the position in Degrees with respect to the 0° marking in clockwise direction of the umbillical and its content:

Position [° CW]	Content

2.1.3 Radio Frequency

Do you use a separate TM transmitter system: ☐
If yes, please specify:

Carrier Frequency [MHz]	Modulation	Deviation [V]	Bitrate [Bit/s]	Encoding	Power [W]

Do you require separate transmitters from MORABA: ☐
Do you require a separate antenna system from MORABA: ☐
Do you require direct access to GPS antennas: ☐

2.1.4 Data

On-Board

If you use the Service Module for data transmission please specify the following:

	On Ground	In Flight	Interface Type	Interface Speed [kBit/s]	Block Size [Bytes]	Block Frequency [Hz]	Average Datarate [Bytes/s]	Peak Datarate [Bytes/s]
Downlink	☐	☐						
Uplink	☐	☐						

On-Ground

Groundstation Computers:

Name	MAC Adress

2.1.5 Signals

Signal	Required	On	Off
SOE			
SODS			
LO		at Umbillical release	never

2.1.6 Pyro

Pyro Events Required:

What is triggered by the pyro event?

2.1.7 Time Synchronisation

Do you require time synchronisation onboard with the Service Module?

Time Synchronisation Required:

2.1.8 Flight Event Information

Flight Event Information Required:

What:

2.1.9 TV Channel

TV Channel Required ☐
How many channels:
Time:

2.1.10 Other

2.2 Electromagnetic Compatibility

2.2.1 Emitting

Do you use USB? ☐
Do you use SATA? ☐
Do you use video cameras? ☐

Please list devices in your experiment that emit or might emit high frequency electromagnetic waves in considerable power and specify the estimated Frequency. If you are uncertain if the device needs to be considered or what frequency is emitted, enter the device and check the box "Require Measurement". :

Device	Require Measurement	~Frequency [MHz]

2.2.2 Sensitive

Do you use a GPS receiver?

Do you use any other kind of receiver?

Do you use any kind of electromagnetic sensitive device like sensors or measurement instrument. Pease also specify the sensitive area.

Device	~Frequency [MHz]

2.3 Hazards

2.3.1 High Voltage

High Voltage Voltage [V]:

2.3.2 Other

2.4 Remarks

3 Mechanical

3.1 Experiment Properties

Lift-Off mass [kg]:

Reentry mass [kg]:

Recovery mass [kg]:

Length [mm]:

Diameter [mm]:

Prefered Position:

Creates Vibrations:

Changes mass or mass distribution:

Ejections:

Moving Parts:

Gas Release:

Lasers: class:

Explosives:

Hatch(es):

Hatches:

Position [° CW]		Access at Launcher		

3.2 Requirements

Maximum Temperature °C

3.3 Hazards

3.4 Remarks

4 Flight Dynamics

4.1 Requirements

min μG Time [s]:
max μG Time [s]:
min Apogee Altitude [km]:
max Apogee Altitude [km]:

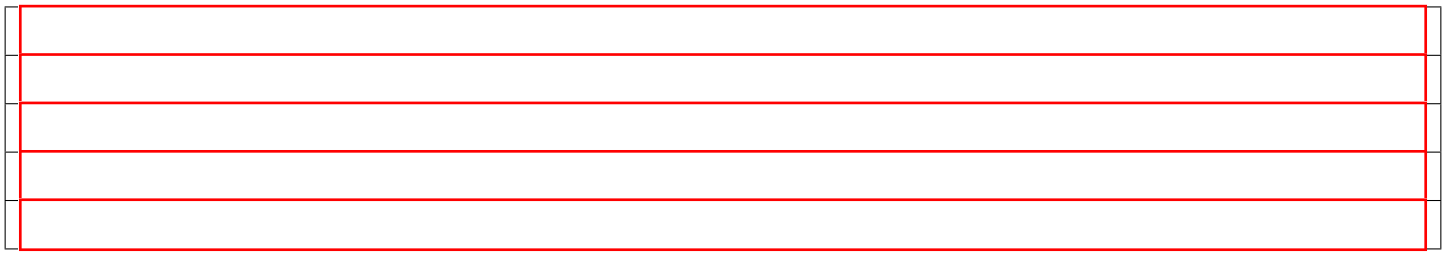
Attitude:

Other:

4.2 Remarks

5 Range

5.1 Launcher Equipment



5.2 Requirements

5.3 Hazards

5.4 Remarks

6 Operational

6.1 Requirements

Temperature before LO	min:		max:
Early Access:			
Late Access:			
Launch Window Restrictions:			
Hold and Restart Restrictions:			

Other Requirements:

6.2 Remarks

6.3 Timetable

Time [T +/− sec]			Event
T		s	
T		s	
T		s	
T		s	
T		s	
T		s	
T		s	
T		s	
T		s	
T		s	

7 Recovery

7.1 Requirements

Max Recovery Time [h]:
Number of items to be recovered:
Recovery procedure Required: Please attach corresponding document.

Description of items to be recovered:

Other:

7.2 Hazards

7.3 Remarks

8 Post Flight Analysis

8.1 Required Information

Here you can specify information you require for post-flight analysis (e.g. GPS position measurements, data from gyroscope etc.).

8.2 Offered Information

Here you can specify information you measured during flight and are willing to share.

9 Hazards

9.1 Explosives

Do you use explosives: Yes ☐ No ☐
If yes:

1. Please attach the Material Safety Data Sheets.
   Attached ☐
   Document Number: ☐

2. Are there electro-explosive devices?Yes ☐ No ☐
   If yes:

   a) Please provide schematic and wiring diagrams.
      Attached: ☐
      Document Number: ☐

   b) Do all electro-explosive devices meet a 1 amp/1 watt NO FIRE requirement?
      Yes ☐ No ☐
      If no, provide a waiver request.

   c) Is it 100% qualified with a 500 VDC megohmmeter test for 5 seconds from bridge wire to case, and bridge wire to bridge wire if dual bridge wires are used?
      Yes ☐ No ☐
      If no, provide a waiver request.

   d) Is the electrical wiring and power source completely independent and isolated from all other systems? (They must not share common cables, terminals, power sources, tie points, or connectors with any other system)
      Yes ☐ No ☐
      If no, provide a waiver request.

   e) Have all circuits been designed with a minimum of two independent safety devices?
      Yes ☐ No ☐
      If no, provide a waiver request.

Remarks:

9.2 Flammables

Do you use flammables: Yes ☐ No ☐
If yes, for each flammable please attach the Material Safety Data Sheet (MSDS) and fill one line:

Flammable	MSDS Doc#	Amount	Purpose	flying

9.3 Chemicals

9.4 Batteries

9.5 Biology

9.6 Radio Frequency Transmitters

9.7 Pressure Vessel

9.8 Radio Activity

9.9 Mechanics

9.10 Laser

9.11 Animals and Genetically modified Organisms

9.12 High Voltage and High Current

10 Additional Comments