

FAILURE MODE	MISSION PHASE	FAILURE PROBABILITY	MISHAP SEVERITY	CRITICAL RANKING	TEAM'S COMMENTS AND JUSTIFICATION
Connection loss to the pad via radio link	Before the flight	1	2	2	Numerous test shown that the radio link is reliable
Igniter material looses quality due to air humidity	Before the flight	1	1	1	Every component gets transported in air tight containers
Altimax fires recovery at the pad	Before the flight	1	1	1	Altimax will be armed shortly before the launch
Ox cleaned components get contaminated	Anytime	1	2	2	Components can be cleaned at EuRoC
Cooling/Heating system pump failure	Before the flight	1	1	1	Leads to slower ox filling
Automatic umbilicals disconnect doesn't work properly	Before the flight	1	2	2	Leads to delays, but can be recycled
Running out of ice due to launch delay	Before the flight	2	1	2	Leads to slower ox filling
Inefficiency of oxfilling due to sun/heat	Before the flight	2	1	2	Leads to slower ox filling
Malfunctioning of our custom made turbo servos due to sun/heat	Before the flight	1	2	2	Backup turbo servos available, leads to delays
Igniters get installed the wrong way round	Before the flight	1	2	2	Led to hardstarts in past tests, special care during installation should mitigate this.
ECU does not detect ignition properly	Ignition phase	2	1	2	Numerous test shown that the ECU can detect ignition reliably
Electrical umbilical gets seperated to early due to vibrations - holddown wont open automatically	Ignition phase	1	2	2	Manual release can be triggered
Insufficient ignition leads to hard start	Ignition phase	1	2	2	Numerous test shown that our ignitions is reliable
Malfunction of the combustion chamber - nozzle gets ejected	Ascent phase	1	2	2	Leads to slightly lower thrust, and would only decrease the apogee
Wrong connector to oxidizer or pressurant bottle provided at EuRoC	Before the flight	1	2	2	Many different adapters are prepared in the case the bottle has not the expected connector
Faster wear down of the combustion chamber	Ascent phase	1	2	2	Leads to slightly lower thrust, and would only decrease the apogee

Human error	Anytime	2	1	2	The whole system is designed so that a single human error can not cause any major impact on the mission
Recovery failure, because the parachute is not ejected	Descent phase	1	3	3	Both recovery flight tests showed that the system is reliable, even if the drogue chute rips off
Recovery failure, because parachute rips off	Descent phase	1	3	3	Shockabsorbers are installed to minimize the risk of the lines ripping, in addition extra thick lines are used
Manual holddown releases to early	Ignition phase	1	2	2	Manual release can only be triggered after 2.5s so that an experienced team member has enough time to decide
Filter of the pump could get dirty - no cooling/heating system	Before the flight	1	1	1	Leads to slower ox filling
Flame diverter gets destroyed	Ignition phase	2	1	2	Can only happen if holddown doesn't release, and has no significant impact
Server overheats and shuts down	Before the flight	1	3	3	Server temperature has to be monitored, if the server is not operational the launch has to be aborted
Eggtimer TRS cannot bulit up connection	Before the flight	1	2	2	Numerous test shown that the TRS connection is reliable