

Team #:	P19151	Team Name:	Satellite Tracking Automated Receiver (STAR)						
Date:	2018/9/10	Document Owner:	Team Member						
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ID	Category	Risk Item	Effect	Cause	Likelihood	Severity	Importance	Action to Minimize Risk	Owner
		<i>What type of risk is this?</i> <i>Describe the risk briefly</i>	<i>What is the effect on any or all of the project deliverables if the cause actually happens?</i>	<i>What are the possible cause(s) of this risk?</i>	<i>L</i>	<i>S</i>	<i>L*S</i>	<i>What action(s) will you take (and by when) to prevent, reduce the impact of, and/or transfer the risk of this occurring?</i>	<i>Who is responsible for following through on mitigation?</i>
1	Environmental	A lightning strike could destroy the machine.	Might cause a short circuit and damage the component	The antenna will be located on the top of the roof	1	9	9	Grounding the tracker structure	Group P19151 members
3	Resource?	Cloud cover could interfere with signal strength.	The signal from satellite might be interrupted	The cloud might be too thick for the signal to go through	1	1	1	--	
5	Resource	The network directory could run out of allocated space.	The new data cannot be saved	User forgets to save and clean up the disk after last use	1	9	9	Increase the network directory	User and Group P19151 members
6	Safety	The antenna could be commanded to move such that it swings into someone.	People will get hurt	People don't notice the warning line	3	3	9	Setting warning line around the tracker	Group P19151 members
7	Safety	The antenna might fall off	Might hurt the people close to it, and might break the antenna	The holder of the antenna doesn't hold it as tight as designed	1	9	9	Check if the holder tight enough after installation	Group P19151 members
8	Technical	Birds might land on device	The extra weight will cause mechanical strain.	--	1	3	3	--	
9	Technical	Severe ice and snow may prevent the machine from working.	Block the signal and cause mechanical strain at the same time	The freezing in Rochester	1	9	9	Keep the tracker moving at a low speed to avoid the system got frozen	User
11	Technical	RIT's network could go down, cutting off communication with the machine.	The interaction between the user and tracker will stop	RIT's network goes down	3	3	9	Backup storage to save the data during this period	Group P19151 members
12	Technical	The tracker might misalign cause by improperly installation	The tracker will not able to track the right path	The installation person doesn't follow the manual	3	9	27	Adding some failure-proof steps when we design the assemble	Group P19151 members
13	Technical	Something block the tracker during the tracking process and cause the gears to slip	The tracker will not able to track the right path	Doesn't correctly estimate the space required to operate	3	3	9	Setting warning line around the tracker	Group P19151 members
14	Technical/safety	The base of tracker might turnover if there is unexpected weight add to the antenna	Might hurt the people close to it, and might break the antenna	People hang something on the antenna	1	9	9	Secure the base to the ground	Group P19151 members
15	Technical	The tracker might get stuck by the ice or resin from trees around the tracker	Might worn out the gear and burn the motor	Low temperature after raining day or too close to the tree	1	9	9	Keep distance from the tree, choose the motor with proper torque to avoid worn out the gears frequently	User
16	Environmental	Animals might nest in the tracker	It will effect future service process, and the animal might short the circuit even cause fire	The tracker will be placed outdoor and the location will not change very often	9	3	27	Seal the tracker carefully, don't leave any hole to the main components	User /Group P19151 members
17	Safety/Environment	People at the observatory may get curious and touch / bump the system.	Might wear out the gear and / or over-stree the motor	The tracker might locate at the place which accessible for other students	1	3	3	Place don't touch warming sticker / high-voltage sticker.	User /Group P19151 members
18	Environmental / Technical	Component performance is temperature-sensitive.	At extreme temperatures, certain components may not work properly.	Unpredictable weather.	9	3	27	Test components over temperature, and build in compensation.	Group P19151 members

19	Technical	The antenna could be commanded to move such that pulls its own wires out.	The system would lose power / network connection.	Wires have a finite length.	3	9	27	Use a coiled cable that can stretch as the system moves, and don't allow the system to move continuously in one direction.	Group P19151 members
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