Potential Faliure Mode	Potential Faliure Effect	Severity	Potential Cause
Repeated values in Circular buffer	wrong data transmission	6	buffer not cleared after transmission
Circular buffer stack memory overflow	memory exhaustion leading to hardfault	8	memory not freed
buffer overflow	part of the data lost	5	buffer size less than the TX RX data
Corrupt data	wrong data transmission	5	interrupt occurs while in handler
UART transmission faliure	Corrupted TX RX line	10	voltage surge distroying the lines
Timing Error	Wrong timestamp for data received	3	interrupt disable stops systick timer
System Shutdown	Data Lost	7	Disconnection from power supply
UART hardfault	Uart while initialization gives hardfault	4	Error in UART initialization registers

Occurence	Controls	Detection	Risk Priority Number
9	clear buffer after transmission	6	324
6	Destroy buffer after buffer use	4	192
4	Create expandable buffer if it gets full	5	100
3	Interrupt disabled in critical Section of code	6	90
2	Use proper electrical guidelines	3	60
2	Disable interrupts in highly critical code	6	36
2	keep the cables and connections tight and clean	2	28
2	Refer datasheet to check if registers have been set to right values	3	24