

FMEA

Item Number	Function/Variable	Potential Failure Mode	Potential Failure Effect	Severity	Potential Cause	Occurrence	Controls	Detection	Risk Priority Number
1	UART0_IRQHandler	Interrupts firing too often	Disrupts echo program flow	7	TX flag is always set when TX buffer is empty	10	Disabling TX Interrupt till we want to transmit the characters	1	70
2	Generic Software Integration	Unable to integrate the software because subsystems aren't compatible	Program breaks without showing functionality	10	Function prototypes are not compatible with each other	10	Global buffers	3	300
3	UART0_IRQHandler	Receive Interrupt Not firing	Program works till a certain point and then stops	9	Overrun flag is not being set	10	No solution found yet	8	540
4	printf	Hardfault when sending data – polling	Printing not happening	8	LED subroutine called before initialization	6	removing logging from LED subroutines	5	240
5	Circular Buffer	Circular Buffer wrap around error	Buffer is unable to fill more data into the allocated memory	7	Wrap around code not working	5	Used modulo logic to wrap around and contain the address value between buffer start and end	4	140
6	Circular Buffer	Data fill	Unable to fill data into buffer	4	Calling function which checks the buffer empty	3	Did extensive add item testing once program logic was changed	2	24