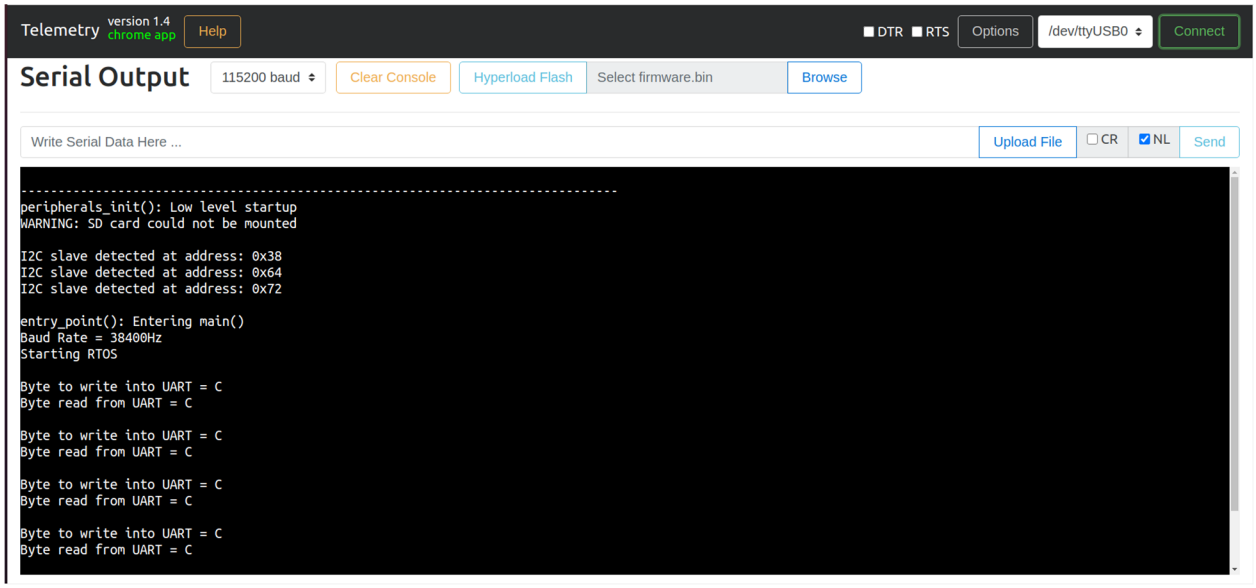
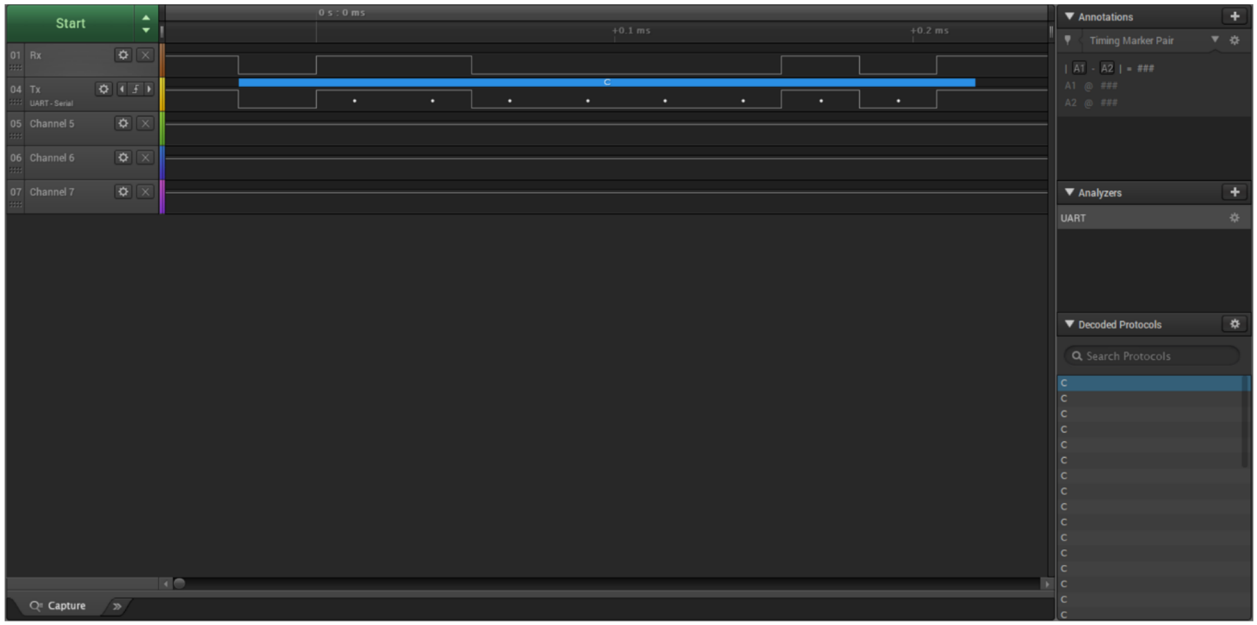
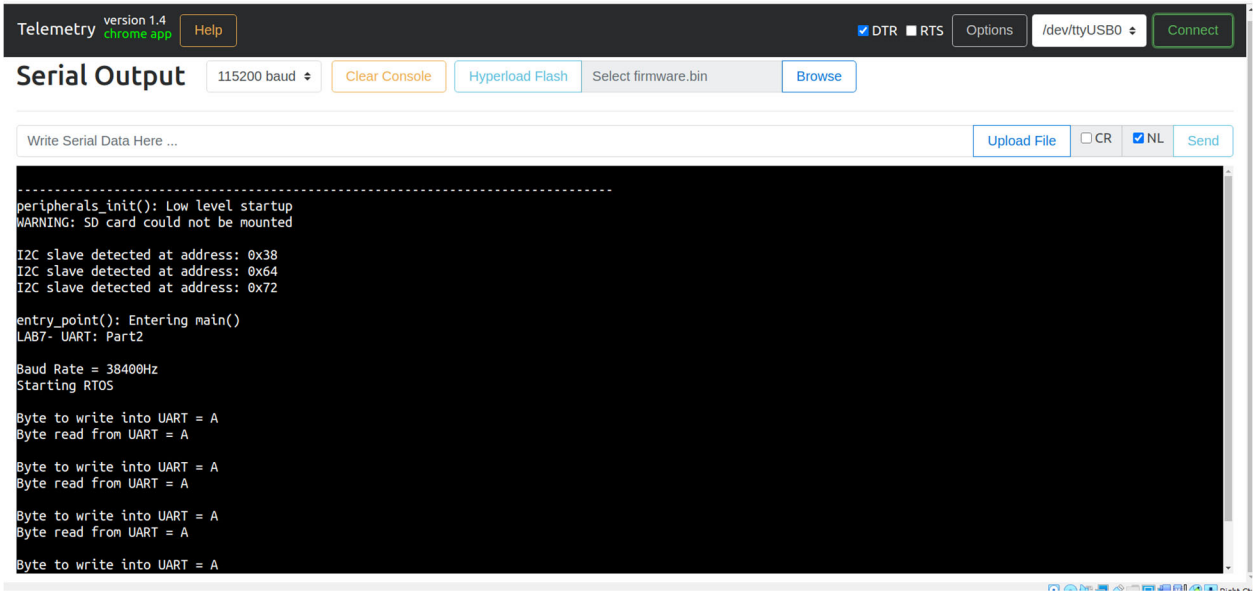
LAB7: UART

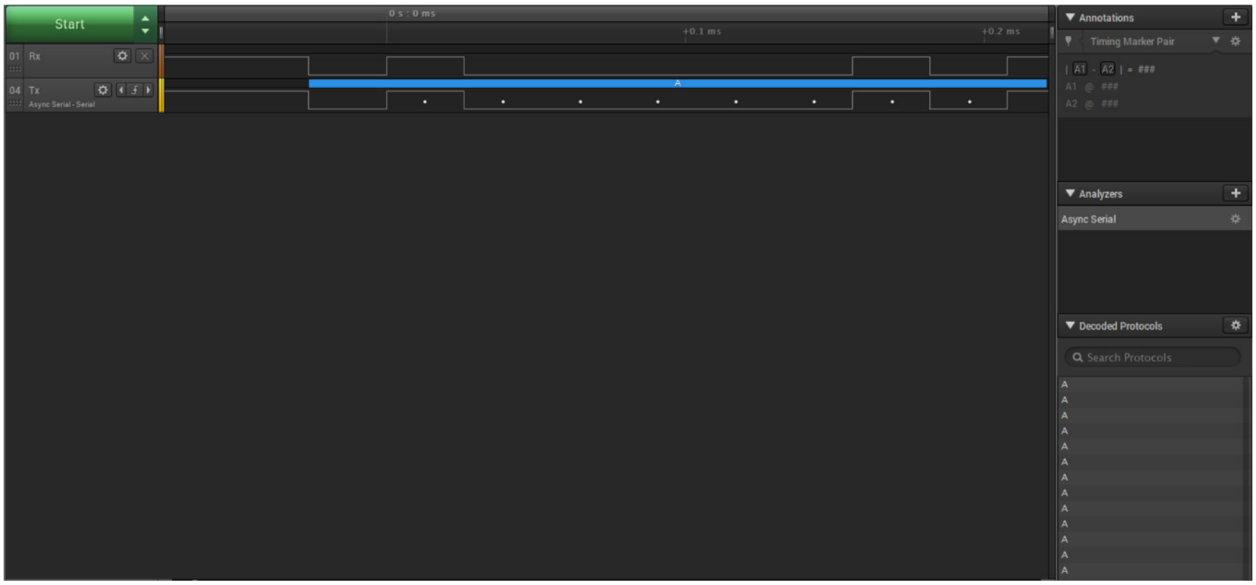
PART 1





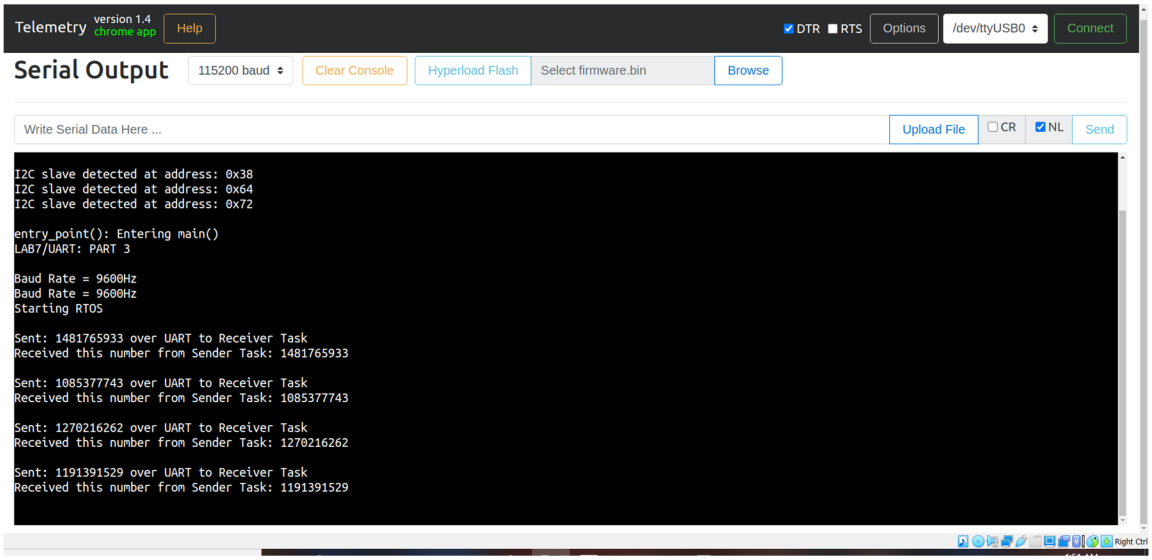
PART 2


Telemetry version 1.4 chrome app
Help
DTR RTS
Options
/dev/ttyUSB0
Connect
Serial Output
115200 baud
Clear Console
Hyperload Flash
Select firmware.bin
Browse
Write Serial Data Here ...
Upload File
CR
NL
Send
peripherals_init(): Low level startup
WARNING: SD card could not be mounted
I2C slave detected at address: 0x38
I2C slave detected at address: 0x64
I2C slave detected at address: 0x72
entry_point(): Entering main()
LAB7- UART: Part2
Baud Rate = 38400Hz
Starting RTOS
Byte to write into UART = A
Byte read from UART = A
Byte to write into UART = A
Byte read from UART = A
Byte to write into UART = A
Byte read from UART = A
Byte to write into UART = A

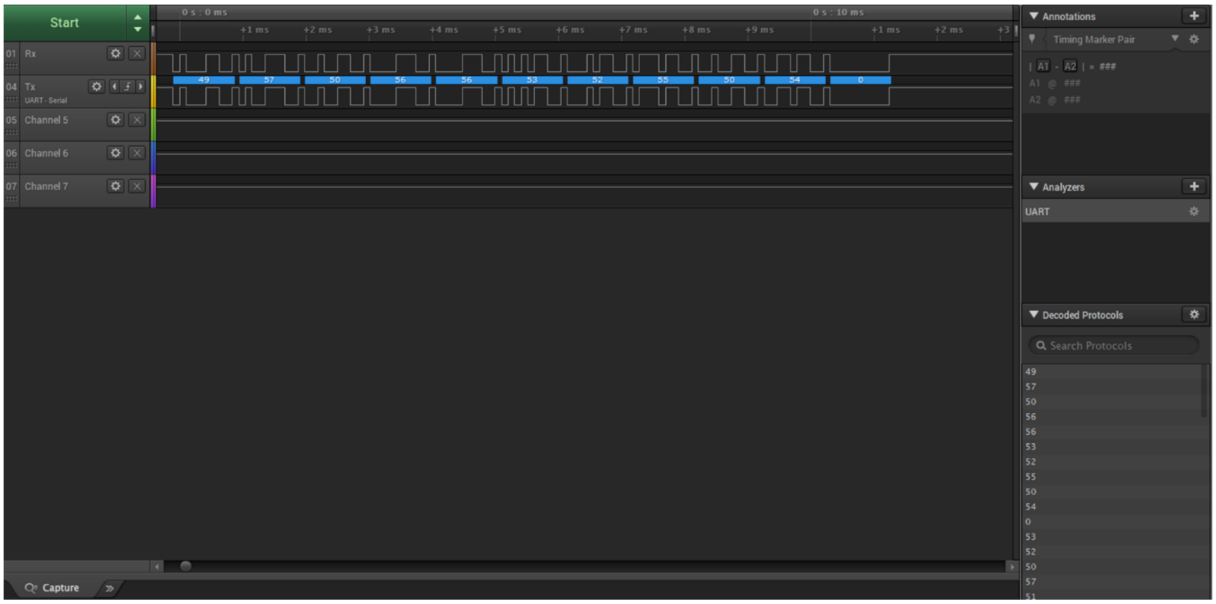

Start
0 s : 0 ms
+0.1 ms
+0.2 ms
01 Rx
04 Tx
Async Serial - Serial
Annotations
Timing Marker Pair
Analyzers
Async Serial
Decoded Protocols
Search Protocols

Part 3: Extra Credit

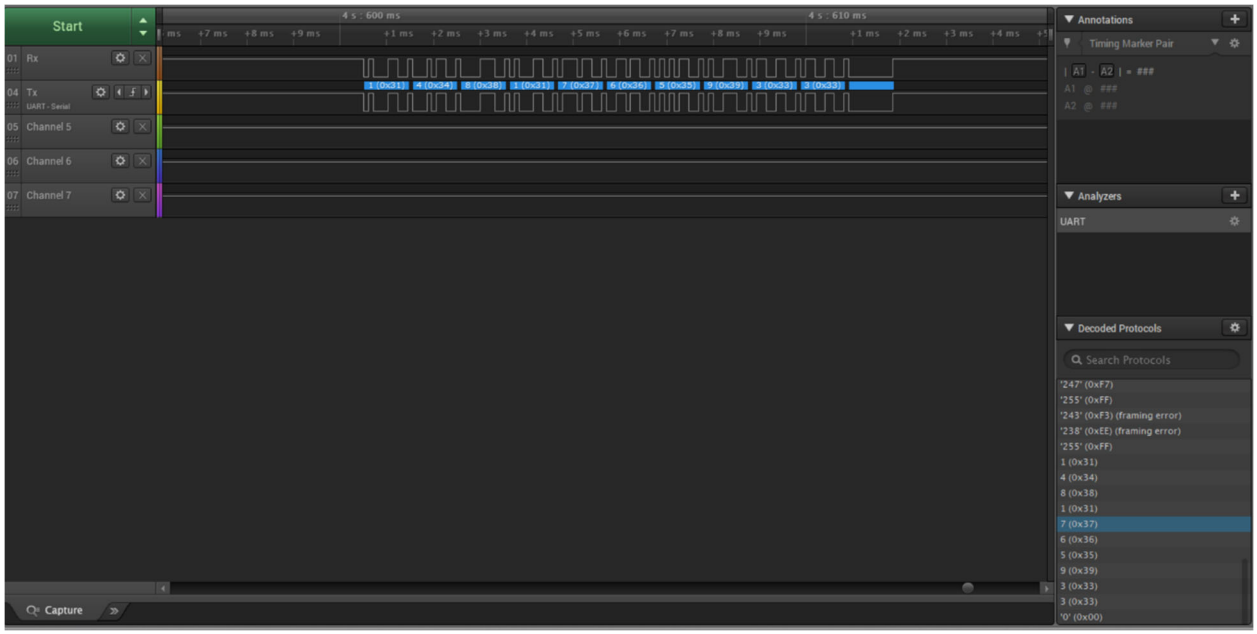
Following is the screenshot from telemetry.



Screenshot from Logic Analyzer for a random input1



Screenshot from Logic Analyzer for a random input2



The following table is the output from decoded Protocols section in logic analyzer.

Time [s]	Analyzer Name	Decoded Protocol Result
-0.00020825	UART	2 (0x32)
0.0008325	UART	0 (0x30)
0.00187325	UART	3 (0x33)
0.002914	UART	7 (0x37)
0.00395475	UART	7 (0x37)
0.0049955	UART	4 (0x34)
0.00603625	UART	3 (0x33)
0.00707725	UART	3 (0x33)
0.008118	UART	8 (0x38)
0.00915875	UART	'0' (0x00)
0.50795	UART	1 (0x31)
0.50899075	UART	8 (0x38)
0.5100315	UART	5 (0x35)
0.51107225	UART	2 (0x32)
0.512113	UART	5 (0x35)
0.51315375	UART	1 (0x31)
0.5141945	UART	4 (0x34)
0.51523525	UART	1 (0x31)
0.51627575	UART	1 (0x31)

0.5173165	UART	'0' (0x00)
1.01599475	UART	1 (0x31)
1.01703525	UART	1 (0x31)
1.018076	UART	0 (0x30)
1.01911675	UART	8 (0x38)
1.0201575	UART	3 (0x33)
1.02119825	UART	2 (0x32)
1.022239	UART	3 (0x33)
1.02327975	UART	2 (0x32)
1.0243205	UART	0 (0x30)
1.025361	UART	6 (0x36)
1.02640175	UART	'0' (0x00)
1.52510375	UART	4 (0x34)
1.5261445	UART	8 (0x38)
1.52718525	UART	9 (0x39)
1.52822625	UART	3 (0x33)
1.52926725	UART	5 (0x35)
1.530308	UART	3 (0x33)
1.531349	UART	7 (0x37)
1.53238975	UART	4 (0x34)
1.53343075	UART	6 (0x36)
1.5344715	UART	'0' (0x00)
2.03318875	UART	1 (0x31)
2.0342295	UART	8 (0x38)
2.03527025	UART	0 (0x30)
2.036311	UART	8 (0x38)
2.03735175	UART	7 (0x37)
2.0383925	UART	3 (0x33)
2.0394335	UART	3 (0x33)
2.04047425	UART	2 (0x32)
2.041515	UART	7 (0x37)
2.04255575	UART	8 (0x38)
2.04359675	UART	'0' (0x00)
2.54230825	UART	8 (0x38)
2.54334875	UART	5 (0x35)
2.5443895	UART	5 (0x35)
2.54543025	UART	2 (0x32)
2.54647075	UART	7 (0x37)
2.5475115	UART	2 (0x32)
2.54855225	UART	9 (0x39)
2.54959325	UART	7 (0x37)
2.550634	UART	0 (0x30)
2.55167475	UART	'0' (0x00)

4.5783295	UART	'243' (0xF3)
4.582172	UART	'247' (0xF7)
4.58585175	UART	'255' (0xFF)
4.5891245	UART	'243' (0xF3) (framing error)
4.59011725	UART	'238' (0xEE) (framing error)
4.59111	UART	'255' (0xFF)
4.6005055	UART	1 (0x31)
4.601546	UART	4 (0x34)
4.6025865	UART	8 (0x38)
4.60362725	UART	1 (0x31)
4.60466775	UART	7 (0x37)
4.60570825	UART	6 (0x36)
4.606749	UART	5 (0x35)
4.6077895	UART	9 (0x39)
4.60883025	UART	3 (0x33)
4.60987075	UART	3 (0x33)
4.6109115	UART	'0' (0x00)