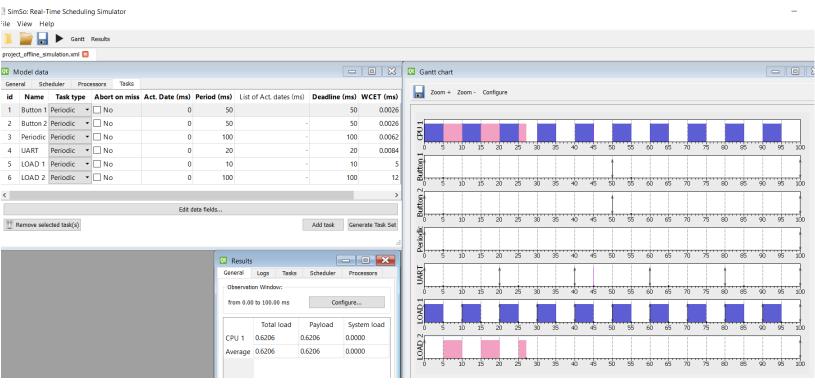
EDF Schedular Analysis Document

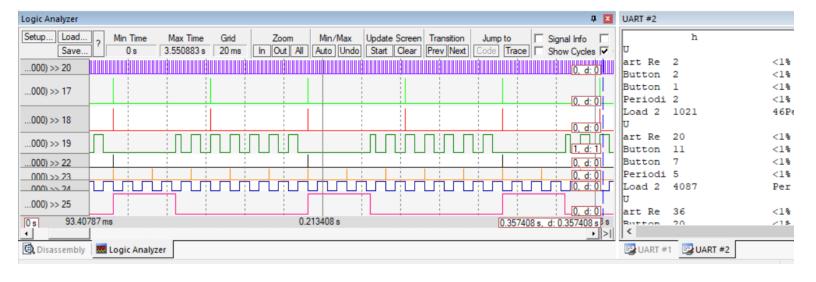
1. Simso Offline Simulation:



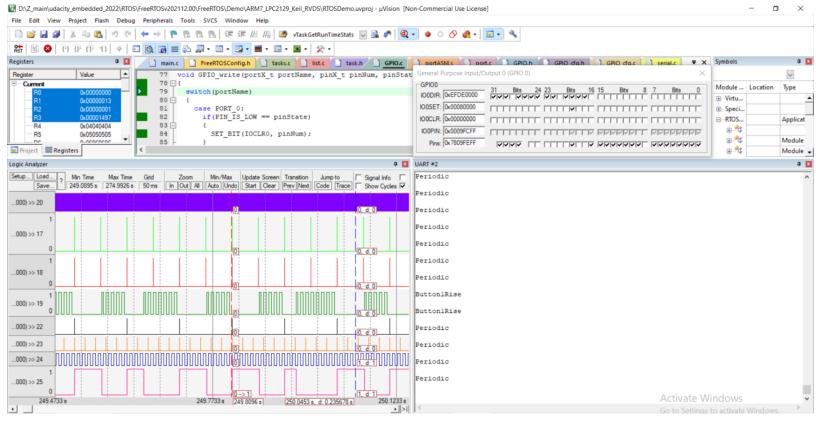
Comment: CPU load matches calculations exactly and all tasks meets their deadline.

2. Kail logic analyser:

trace macros:



GPIO and hooks display:



Pin Configurations:

Pin20:Tick hook

Pin17: button 1 monitor

Pin18:button 2 monitor

Pin19:Idle hook

Pin22:Periodic task

Pin23:UART task

Pin24:Load1

Pin25:Load2

3. Hand written analysis:

CPU load, Hyper period and URM calculations:

_	Button (P:50, E: 2.645, D:50)
	2 Button 2 (P:50, Ei2.6MS; Diso)
_	3 periodic (p!log, E: 6,2 Ms; piloa) 4 ()art (pi20, E: 8,4 M; p:20)
	5 [pad 1 (pilo, E; 6 ms; Dilo)
	6(on/2 (Piloo, Eilzmsi Diloo).
F _	
r _	hyper period = 100 ms
-	CPULOOD = (2.6 MS X2) + (2.6 MS X2) + (6.2 MS) + (5X8.4 MS)
	+ (6ms xlo) + (12ms)
	[-ooms
, _	= 0.620586
_	2645 , 6245 , 8,4/45 + 5 + 12 -0.62058
r -	$U = \frac{2.6\pi s}{50} + \frac{2.6\pi s}{50} + \frac{6.2\pi s}{100} + \frac{8.4\pi s}{20} + \frac{5}{100} + \frac{100}{200}$
J	URM = 6(26-1) = 0.73477 U SURM 80 Schefulalle
-	0 = 0 - 1) = 0 · 734 + 7

Time demand calculations:

Time Demand:	
loadi:	
Carlong & Mounty & Till	
$w(1) = 6 + 0 = 5 \qquad w(1) < D$	
5 (10 Lord 15 chebilable	
VART:	PAGE
MAN LASSINGLE CONTROL OF THE PARTY OF THE PA	DATE
W(1) = 8.4MS + (10) x Gms = 5,0084 ms	Deriodic - XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
w(2) = 8.4 MS + (2) X SmS = 10,0084mS	- WAS LESS - CONTRACTOR OF THE PARTY OF THE
w(2) ()	W(1) = 6.2 MS + 2x (=) x2.6 MS + (=) x8.4 MS + (=) x5 mS = 5.0198 ms
UART Schelable	W(2) = 6.2 MS + 2x (3) x2.6 MS + (3) X84MS + (2) x5mS = 10.0198mS
Button!	62 MS + 2x (3) X26 MS + (3) X8,4Mf+ (3) X5ms = 16.0282 ms
	W(4) = 6.2 MS + 2x (4) x2.6 M+ (4) x8.4 M+ (4) x5ms = 20.0282 ms
W(1) = 2.6 Ms + () x8.4 Ms + () x 5ms + 5011 ms,	W(5) = 6.2 MS + 2x (\$) x 2.6 MS + (\$) x 8.4 MS + (\$) x 5ms = 26. 0 366 ms
W(1) = 2.6 US+ (2) x8.4 US+ (2) x Sms = 10.011ms.	W(6) = 6.2 MS + 2x (=) x26MS + (=) x8.4MS + (=) x5m5 = 30.04 18mS
W3) = 2,6 MS + (3) X8,4 MS + (1) X SMS= 15.0194 mS.	W7=62MS+2x (3) x2.6MS+ (3) x8.4MS+(2) x5mS=35.0502mS
W(4) = 2.6 MS + (4) x 8.4 MB+ (4) x 5m5 = 20.0194 ms.	W8 = 6.7 MS + 9x (\$) x2.6 MS + (\$) x8.4 MS + (\$) x5ms=40.0502ms
W(5) = 2.6M(+ (\(\xi\))x\\\\(\xi\))x\\\\\\\\\\\\\\\\\\	(1) 1 = 6.2 MS + 2x (2) x 2.6 MS + (1) x 8.4 MS + (2) x 5mS = 45.0 586 mS
W(5) < D -	W(10) = 6.2 MS + 2X(13) X2.6MS + (4) X8.4MS + (10) X5M=50.0586MS.
	50.0586 / 10.0
25.0278 < 50 Button 1 is. schedulable.	periodic is schela lalle.
Button 2:	since Load 2 has same peabline Like periodic Taple
(W(1) = 2,6MS + (5) x 2,6MS + (2) 28,4MS + (7) x 5mS = 5,0136mS	so we will add the willo Load of periodic Task To
216 M(+ (2) X216 MS + (2) X814 MS + (2) X5mS = 10.0136 mS	execution time of Load 2 Tape
2,645 + (3) x2,6 M5 + (7) x8,6M5 + (3) x 5m5 = 15.022 ms	W(10) = 50.0586+ 12 ms = 62.0586 W(10) = 12ms + (10)x612Ms + 2x(15)x216Ms + (15) x814Ms + (15)x5ms = 62.0586ms
2.6MS + (4) x2.6MS + (4) x 8.16MS + (4) x 6mS = 20.022 mg	W(10) < D
2.6 MS + (5) x2.6 MS + (5) x 8.4 MS + (5) x 6 mS = 25.0304 ms	1 20/ / 122
W(1) LD	62.0586 < 100 Coast is schedulable
26.0304 250 By 770n2 :5 Scheda Calle.	Love
Comments:	
Comments.	

the time demand is equal to the cpu load , so this means that the total system load can fit within the hyper period so this is why the time demand equals to the cpu load $\frac{1}{2}$