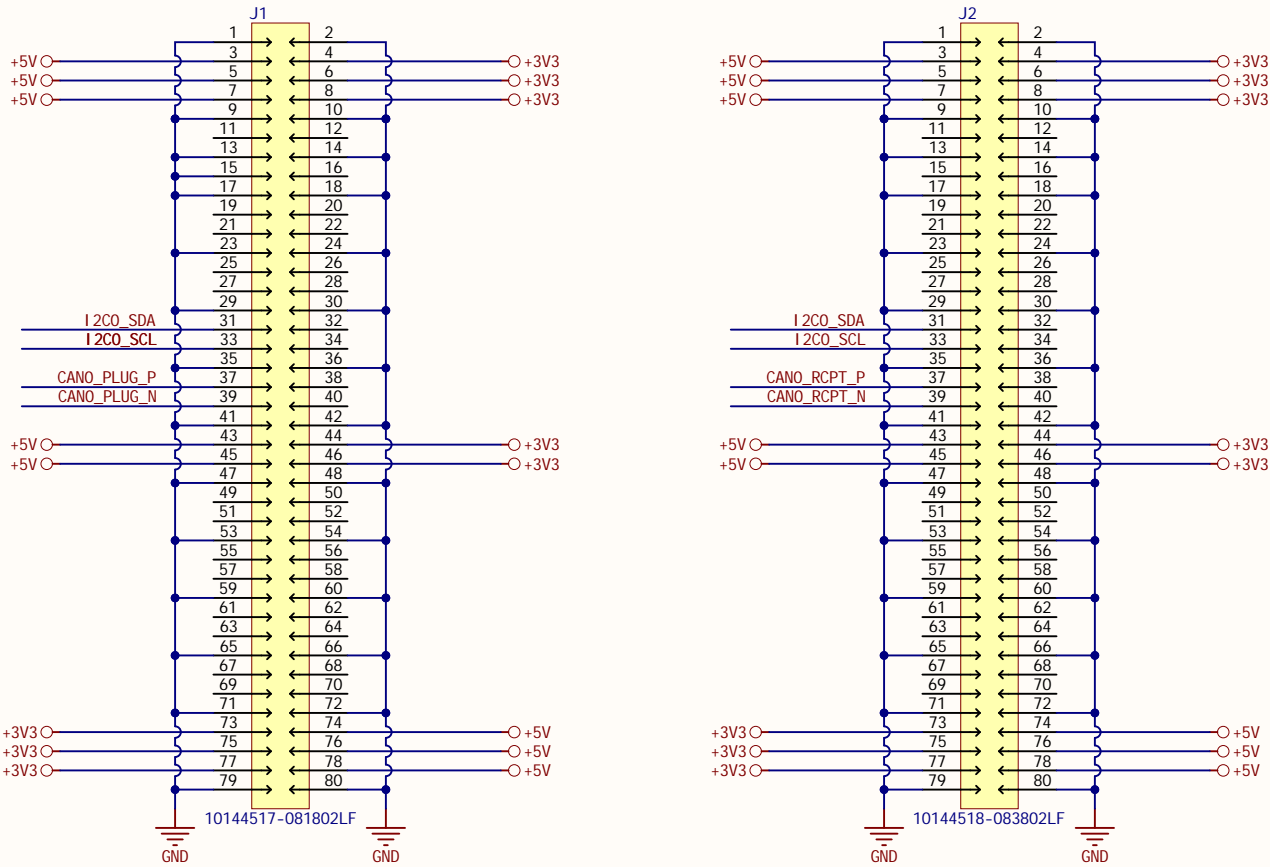
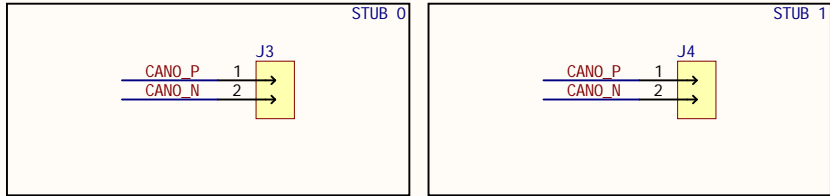


BOARD CONNECTOR



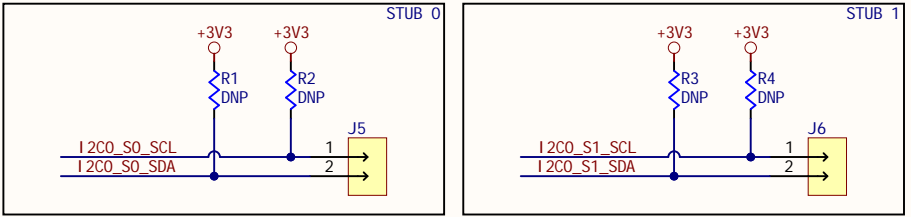
NOTES:  
[1] CORESIGHT 20 STANDARD ALLOWS TRACECLK, TRDO - 4 TO ACT AS RTCK, SWO, nTRST, DBGQ, AND DBGACK.  
[2] SWD CAN ONLY BE USED FOR ONE MICROCONTROLLER UNLESS A SWD MULTIPLEXER IS EMPLOYED (SEE RESEARCH NOTES PG. 9 FOR DETAILS) OR MICROCONTROLLERS SUPPORT SWD 2.0 (SWD MULTIDROP).  
[3] TO PREVENT BUS CAPACITANCE FROM OVERWHELMING I2C LINE, I2C BUFFERS MUST BE USED ON EVERY BOARD THAT INTERFACES WITH I2C.

CAN STUB CONNECTORS

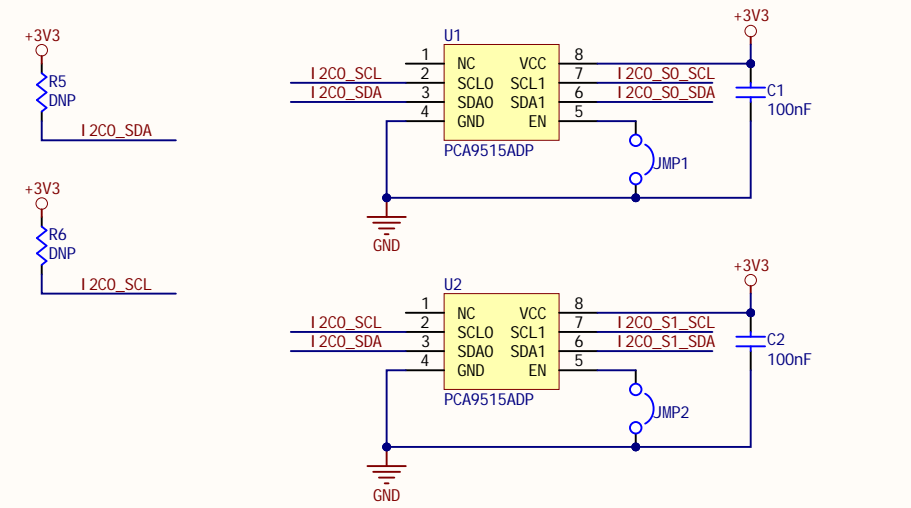


NOTES:  
[1] CAN STUB NODE BOARDS WILL BE RESPONSIBLE FOR TERMINATION.  
[2] CAN STUB NODE CONNECTIONS SHOULD BE LESS THAN 30 CM LONG.

I2C STUB CONNECTORS

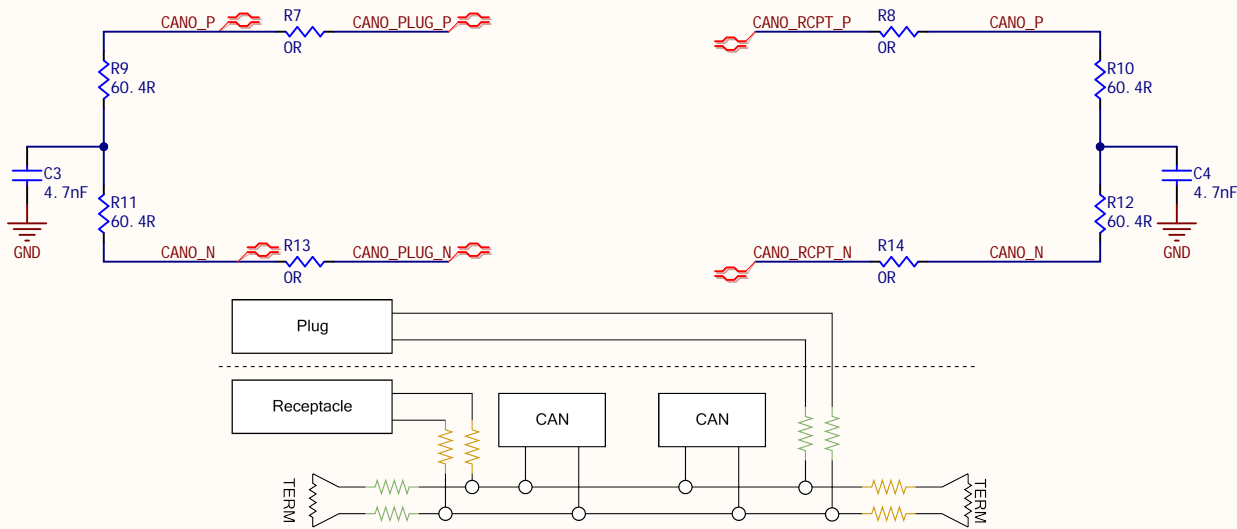


I2C TERMINATION & REDRIVING

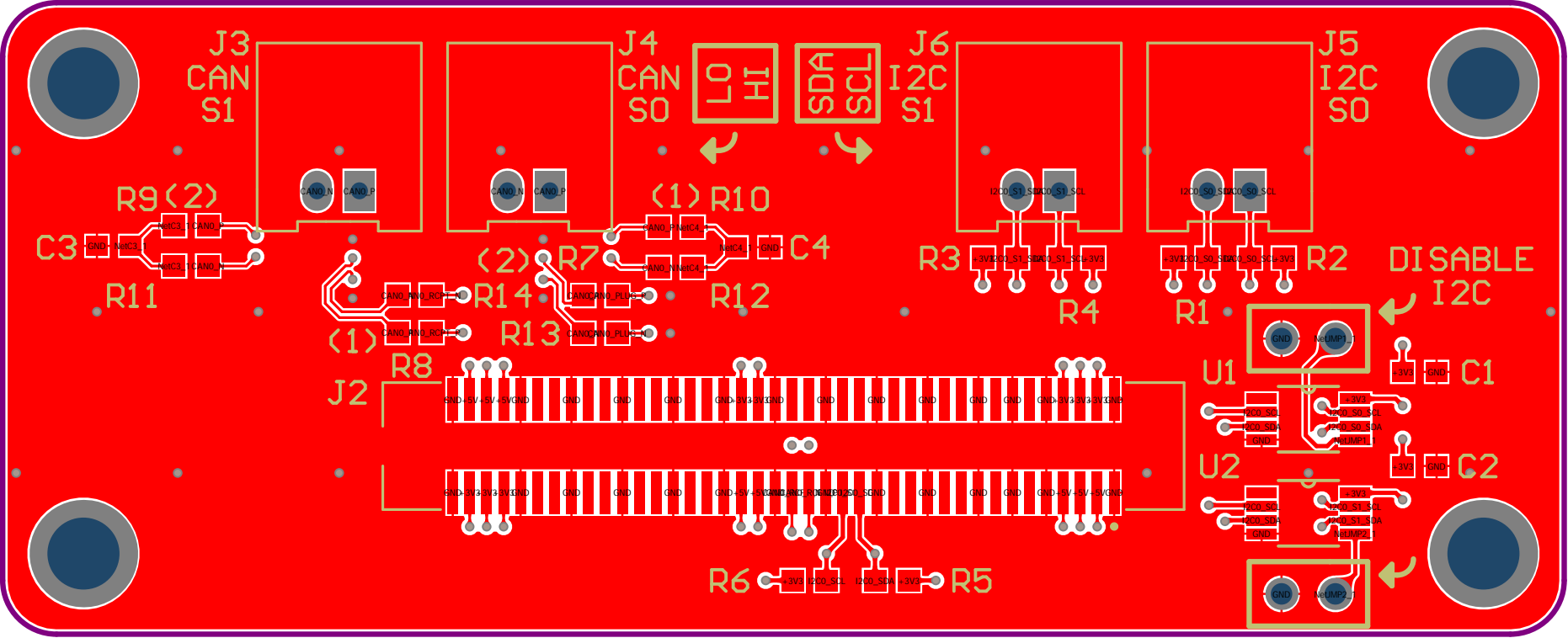


NOTES:  
[1] REPLACE RESISTORS WITH PROPER I2C PULL UPS.  
[2] I2C REDRIVERS USED TO MAINTAIN PROPER BUS CAPACITANCE EVEN WITH LONG CABLES.  
[3] REDRIVER IC ENABLE IS ACTIVE HIGH WITH INTERNAL PULL UP RESISTOR; JUMPER PROVIDES METHOD FOR DISABLING REDRIVER.

CAN TERMINATION



NOTES:  
[1] SPLIT TERMINATION PROVIDES BETTER NOISE FILTERING WITH FC = 1.1. MBPS.  
[2] SELECTABLE TERMINATION PROVIDED SO THAT PROPER TERMINATION IS POSSIBLE WHEN BOARD IS CONNECTED THROUGH EITHER CONNECTOR (SEE ABOVE IMAGE). RESISTORS OUTSIDE OF TERM ARE OR.  
[3] POPULATE R7, R9, R11, R13, C3 IF THE CAN SIGNAL IS COMING FROM THE PLUG. OTHERWISE, POPULATE R8, R10, R12, R14, C4 IF THE CAN SIGNAL IS COMING FROM THE RECEPTACLE.





YOVANY MOLINA  
BLAKE SANDERS  
SPRING 2024  
TGIS TERM V1

I200\_S0\_S0C00\_S0\_S0A

I200\_S1\_S0C00\_S1\_S0A

CAN0\_P CAN0\_N

CAN0\_P CAN0\_N

M3

NEUMP1

GND

NEUMP2

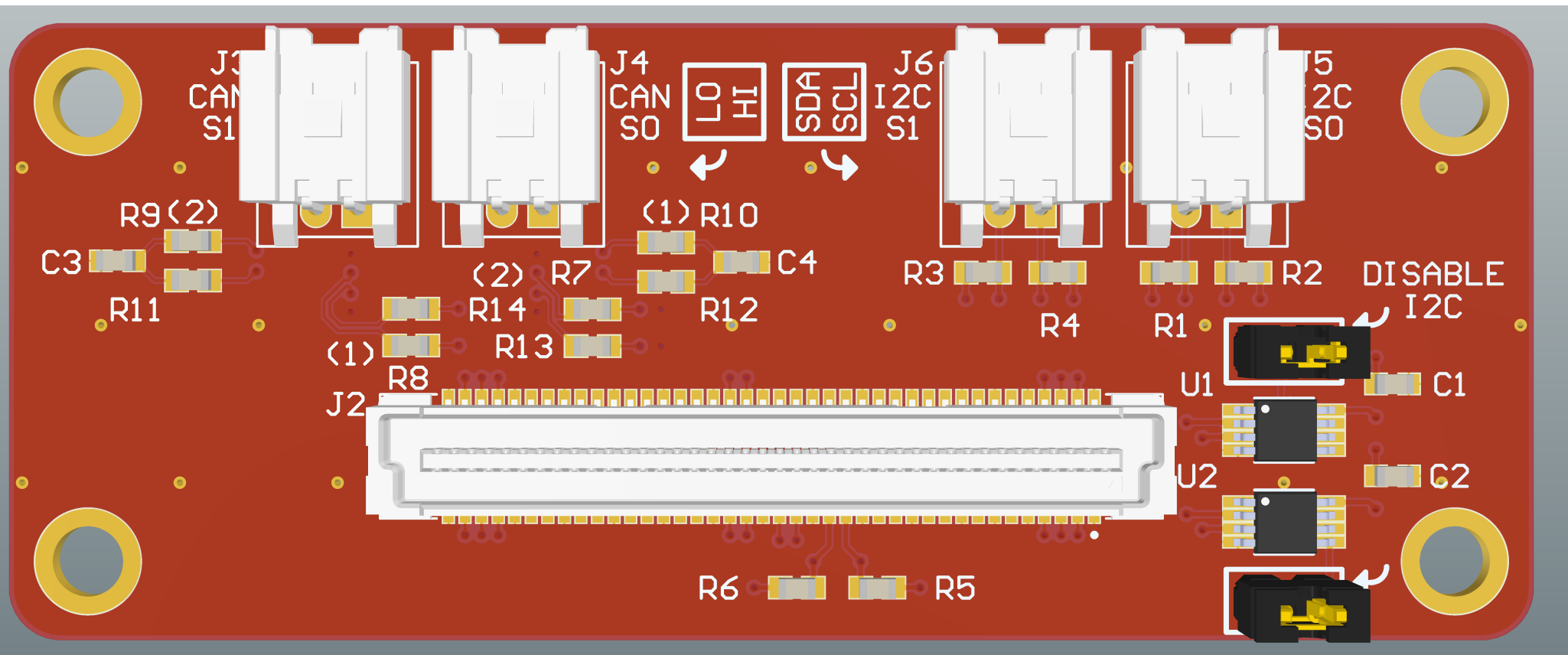
GND

GND-3V3-3V3-3V3GND GND GND GND GND GND GND-3V3-3V3GND GND GND GND GND GND-5V-5V-5V-5V

J1

GND-5V-5V-5V-5VGND GNDGNDGND GND GND-5V-5V-5V-5VGND GND-5V-5V-5V-5VGND GND GND GND GND GND-3V3-3V3-3V3GND

POPULATE IF  
(1) RCPT  
(2) PLUG





YOVANY MOLINA  
BLAKE SANDERS  
SPRING 2024  
TGIS TERM U1

M3

POPULATE IF  
CAN FROM  
(1) RCPT  
(2) PLUG

J1

Comment	Description	Designator	Footprint	LibRef	Quantity
100nF	Ceramic Capacitor, Multilayer, Cera	C1, C2	CAPC0603	CC0603KRX7R7BB104	2
4.7nF	Ceramic Capacitor, Multilayer, Cera	C3, C4	CAPC0603	CC0603JPX7R9BB472	2
10144517-081802LF	CONN RCPT 1 80POS SMD GOLD	J1	AMPHENOL_1014451 7-081802LF	10144517-081802LF	1
10144518-083802LF	CONN PLUG 3 80POS SMD GOLD	J2	AMPHENOL_1014451 8-083802LF	10144518-083802LF	1
0353630260	Header, Molex, 2mm Pitch Sherlock Header, Single Row, Horizontal, 2 Circuits, Length 3.3mm, 0353630260	J3, J4, J5, J6	MOLEX-HDR-1X2- SHERLOCK-HORZ	SHERLOCK-1x2-RA	4
DNP	(DO NOT PLACE) Resistor	R1, R2, R3, R4, R5, R6	RES0603	Resistor_DNP	6
0R	Fixed Resistor, Metal Glaze/thick F	R7, R8, R13, R14	RES0603	RC0603FR-070RL	4
60.4R	Fixed Resistor, Metal Glaze/thick F	R9, R10, R11, R12	RES0603	RC0603FR-0760R4L	4
PCA9515ADP	IC REDRIVER I2C 2CH 8TSSOP	U1, U2	SOP65P490X110-8N	PCA9515ADP	2

## Electrical Rules Check Report

Class	Document	Message
		Successful Compile for TGIS CAN Termination.PrjPcb

## Design Rules Verification Report

Filename : C:\Users\molyo\OneDrive\Desktop\MIL\TailGator\PCB\TailGator Interconnect Syst

Warnings 0  
Rule Violations 0

Warnings	
Total	0

Rule Violations	
Clearance Constraint (Gap=4mil) (All),(All)	0
Short-Circuit Constraint (Allowed=No) (All),(All)	0
Un-Routed Net Constraint ( (All) )	0
Modified Polygon (Allow modified: No), (Allow shelved: No)	0
Width Constraint (Min=4mil) (Max=71497.938mil) (Preferred=4mil) (All)	0
Power Plane Connect Rule(Direct Connect)(Expansion=20mil) (Conductor Width=10mil) (Air Gap=10mil) (Entries=4)	0
Power Plane Connect Rule(Relief Connect)(Expansion=11.811mil) (Conductor Width=4mil) (Air Gap=4mil) (Entries=4)	0
Minimum Annular Ring (Minimum=3mil) (All)	0
Hole Size Constraint (Min=7.874mil) (Max=248.031mil) (All)	0
Hole To Hole Clearance (Gap=9.842mil) (All),(All)	0
Minimum Solder Mask Sliver (Gap=0mil) (All),(All)	0
Silk To Solder Mask (Clearance=4mil) (IsPad),(All)	0
Silk to Silk (Clearance=0mil) (All),(All)	0
Net Antennae (Tolerance=0mil) (All)	0
Board Clearance Constraint (Gap=0mil) (All)	0
Matched Lengths(Tolerance=5mil) (InNetClass("CAN0_RCPT"))	0
Matched Lengths(Tolerance=5mil) (InNetClass("CAN0_PLUG"))	0
Matched Lengths(Tolerance=5mil) (InNetClass("CAN0"))	0
Height Constraint (Min=0mil) (Max=71497.938mil) (Preferred=500mil) (All)	0
Total	0