Quadcept(쿼드셉트)와 PollEx(폴렉스)를 활용한 PCB 설계와 디자인 리뷰

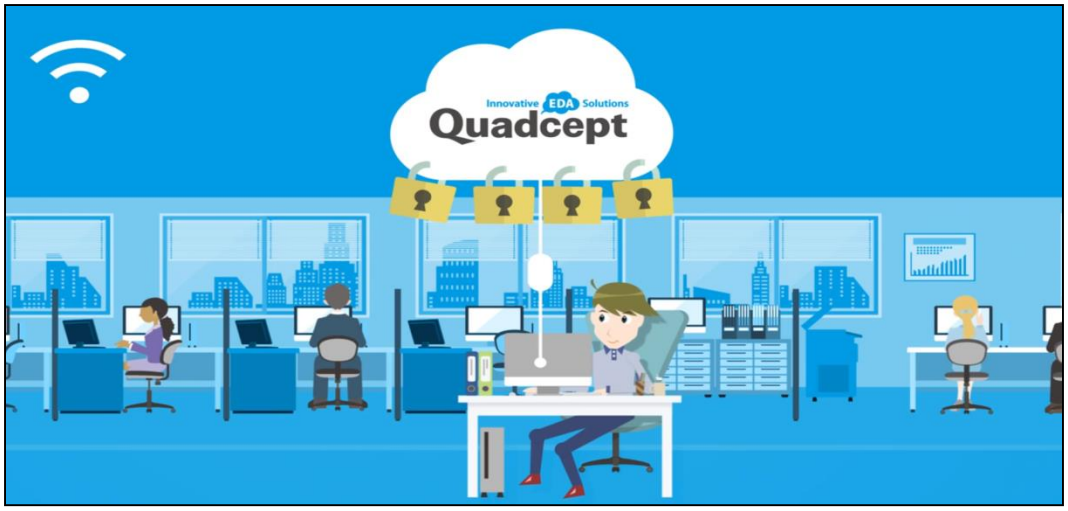
Innovative EDA Solutions Quadcept Authorized Reseller

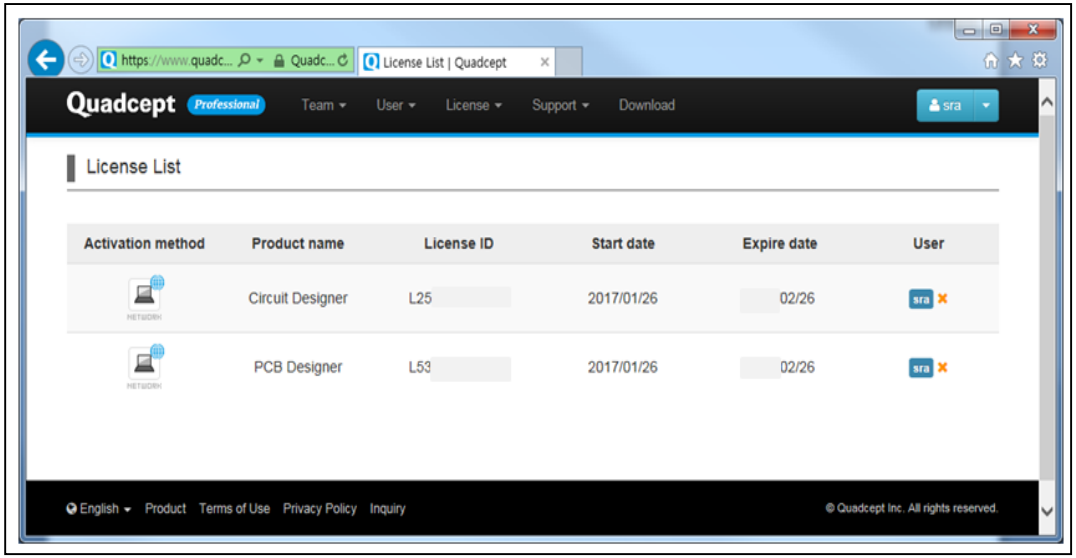
polliwog corporation Authorized Channel Partner

차례

C O N C E P T

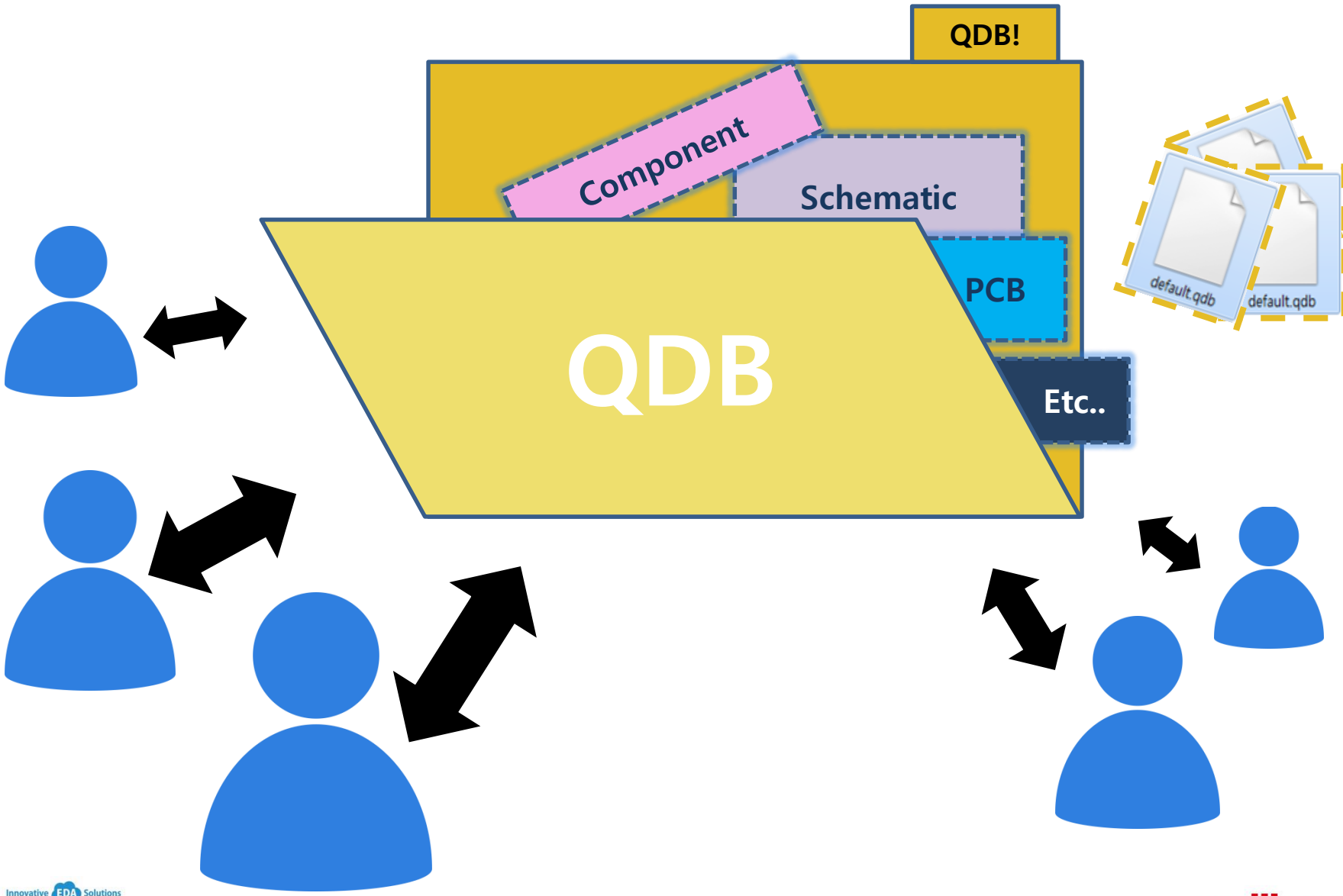
Cloud!


Innovative EDA Solutions
Quadcept


https://www.quadc...
Quadc...
License List | Quadcept
Quadcept Professional
Team
User
License
Support
Download
sra
License List
Activation method
Product name
License ID
Start date
Expire date
User
Circuit Designer
L25
2017/01/26
02/26
sra
PCB Designer
L53
2017/01/26
02/26
sra
English
Product
Terms of Use
Privacy Policy
Inquiry
© Quadcept Inc. All rights reserved.

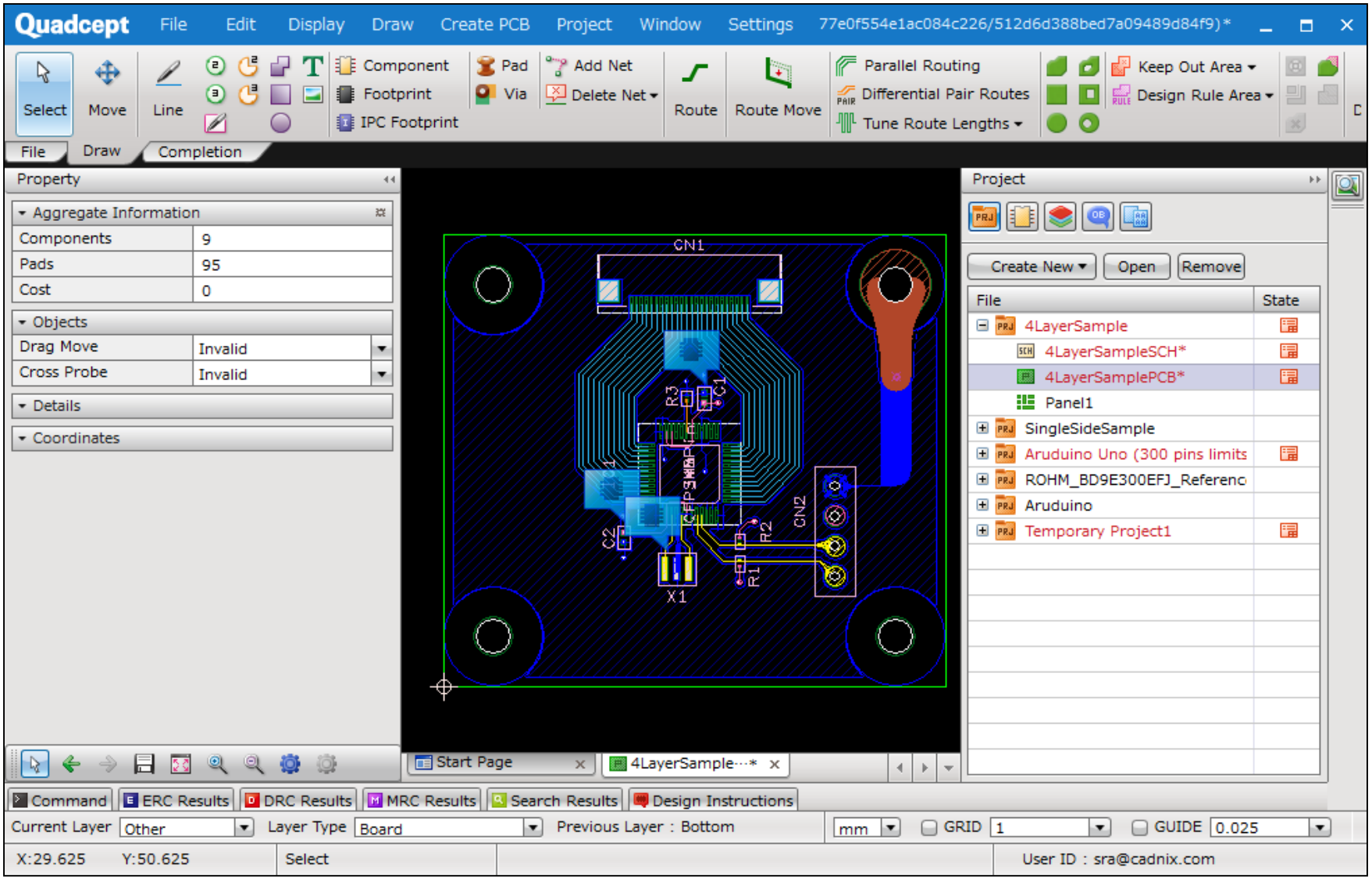
Great Cost Performance!

1. Concept - QDB



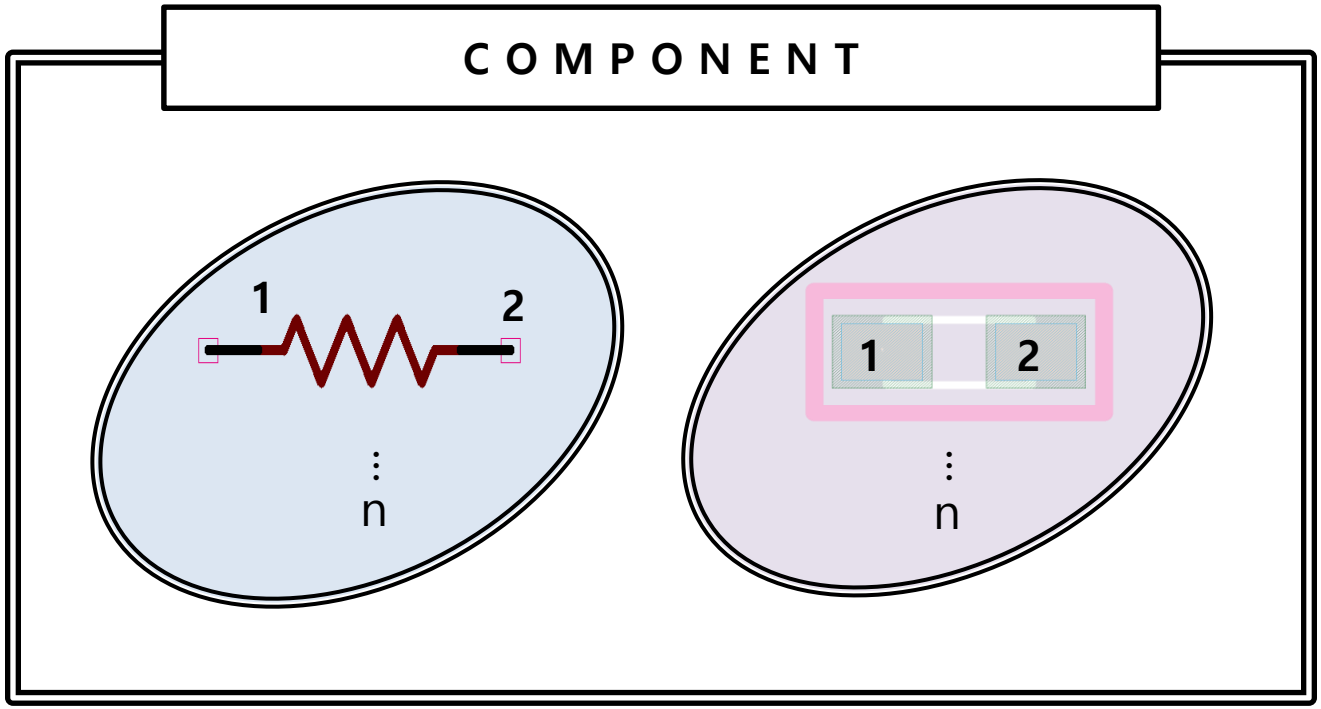
화 면 구 성

2. 화면구성 - Window

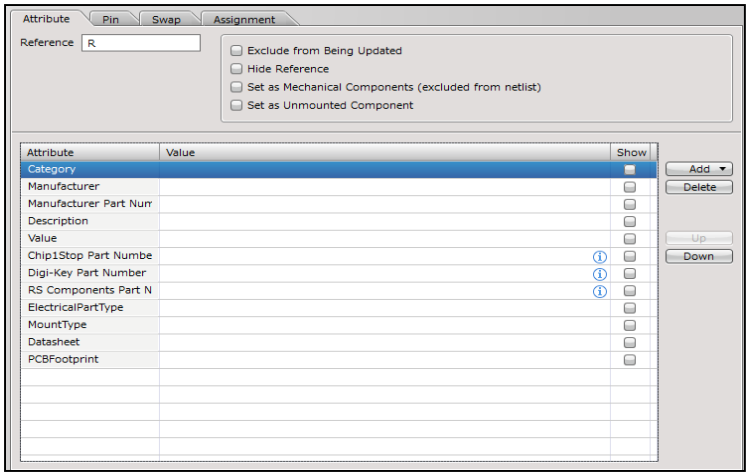


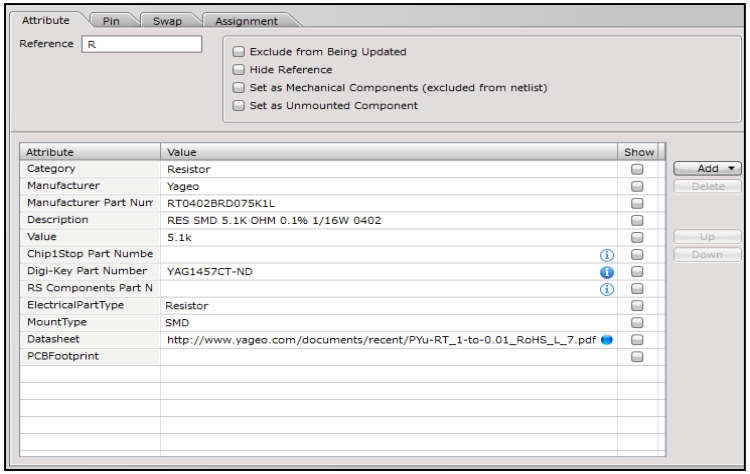
L I B R A R Y

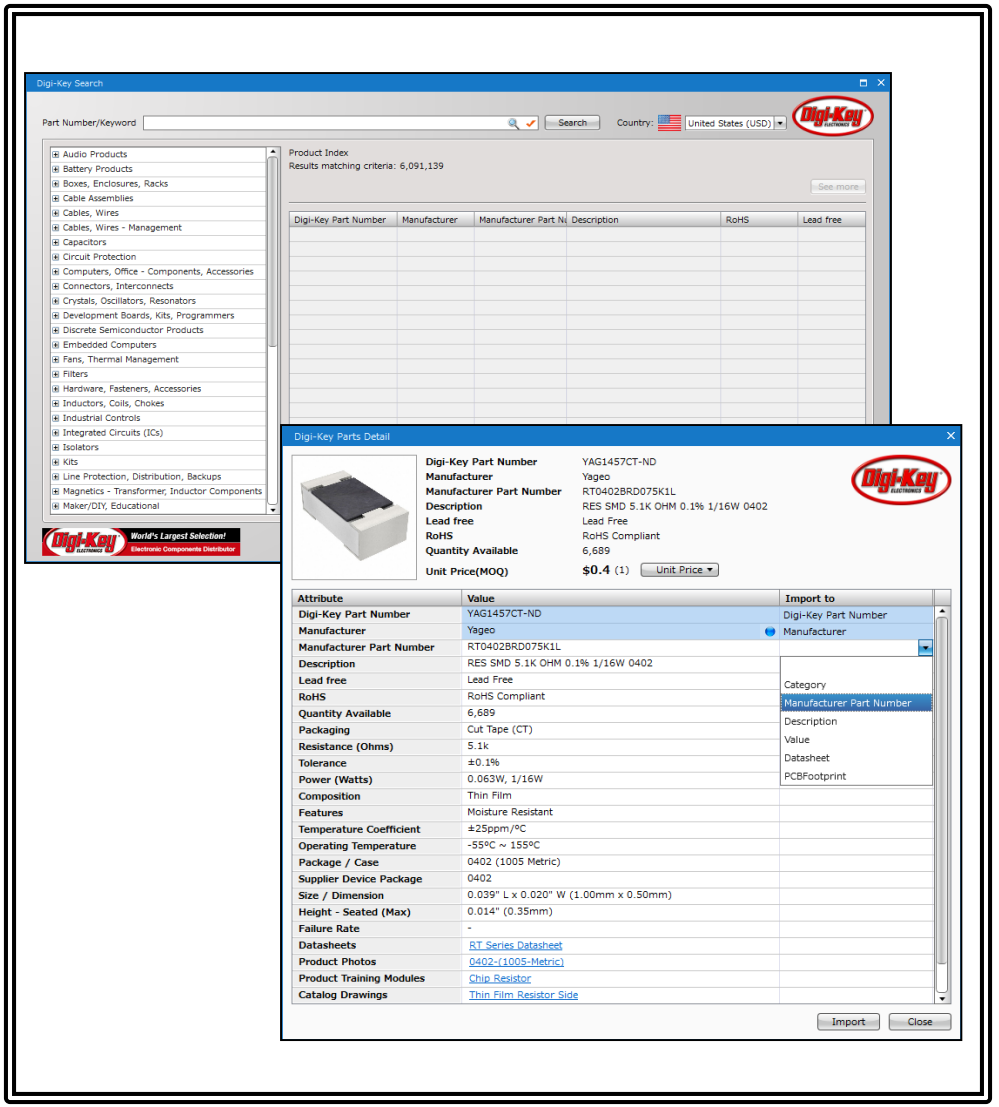
3. Library - Concept



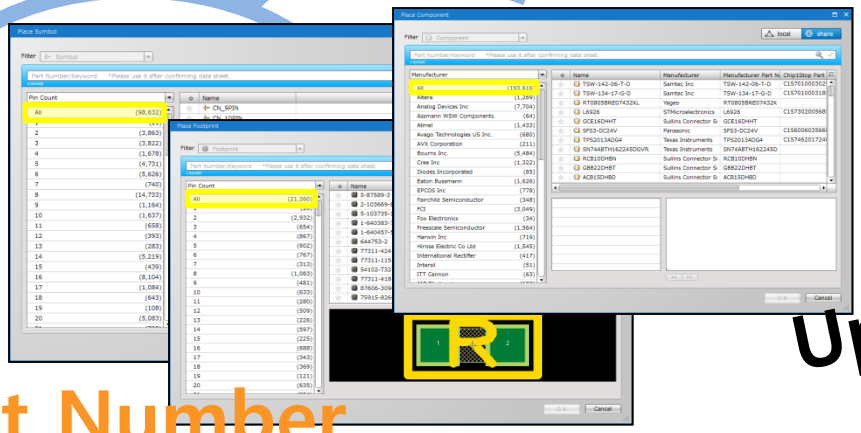
3. Library - Attribute







3. Library - Share

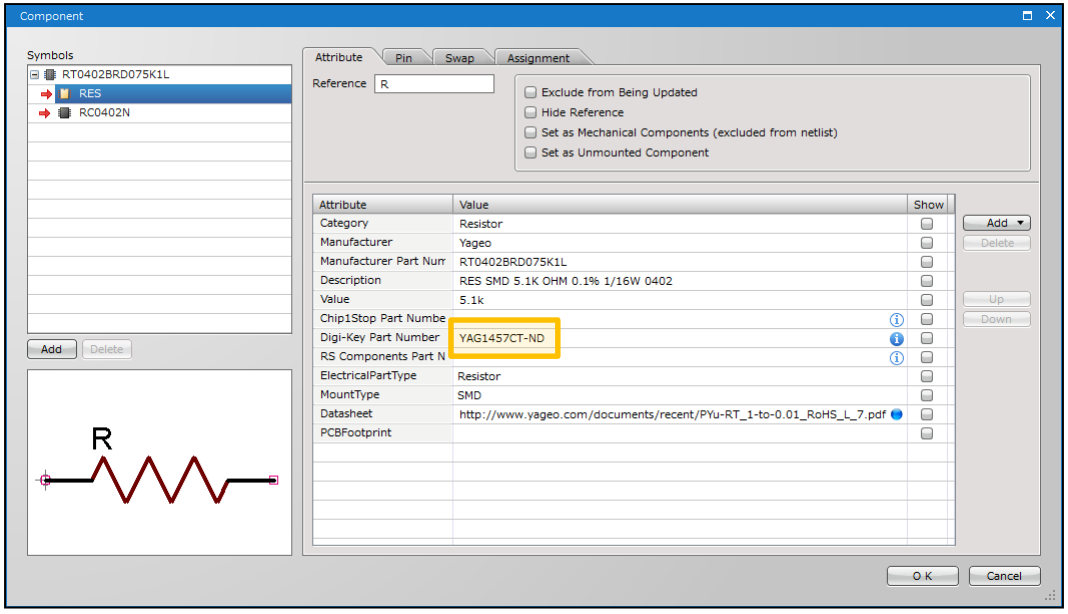


Cloud!

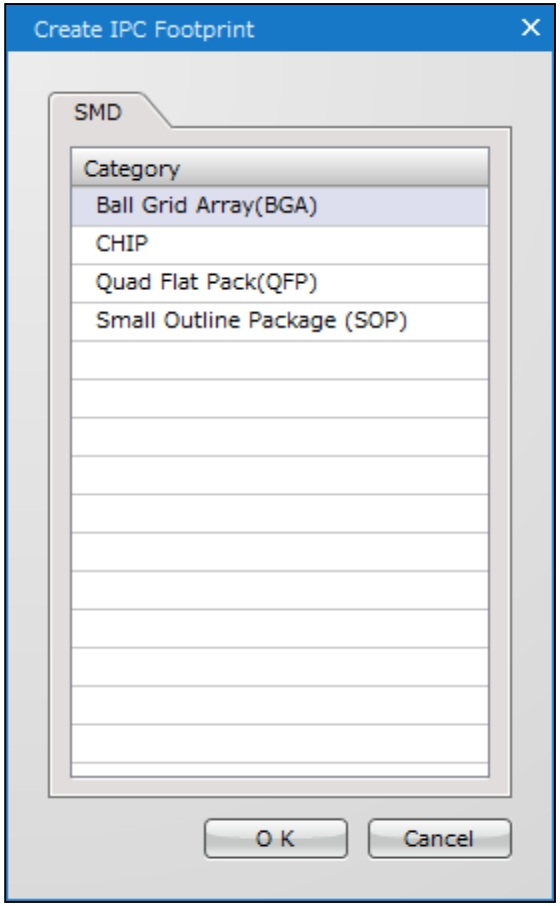
Up to 250000 ↑

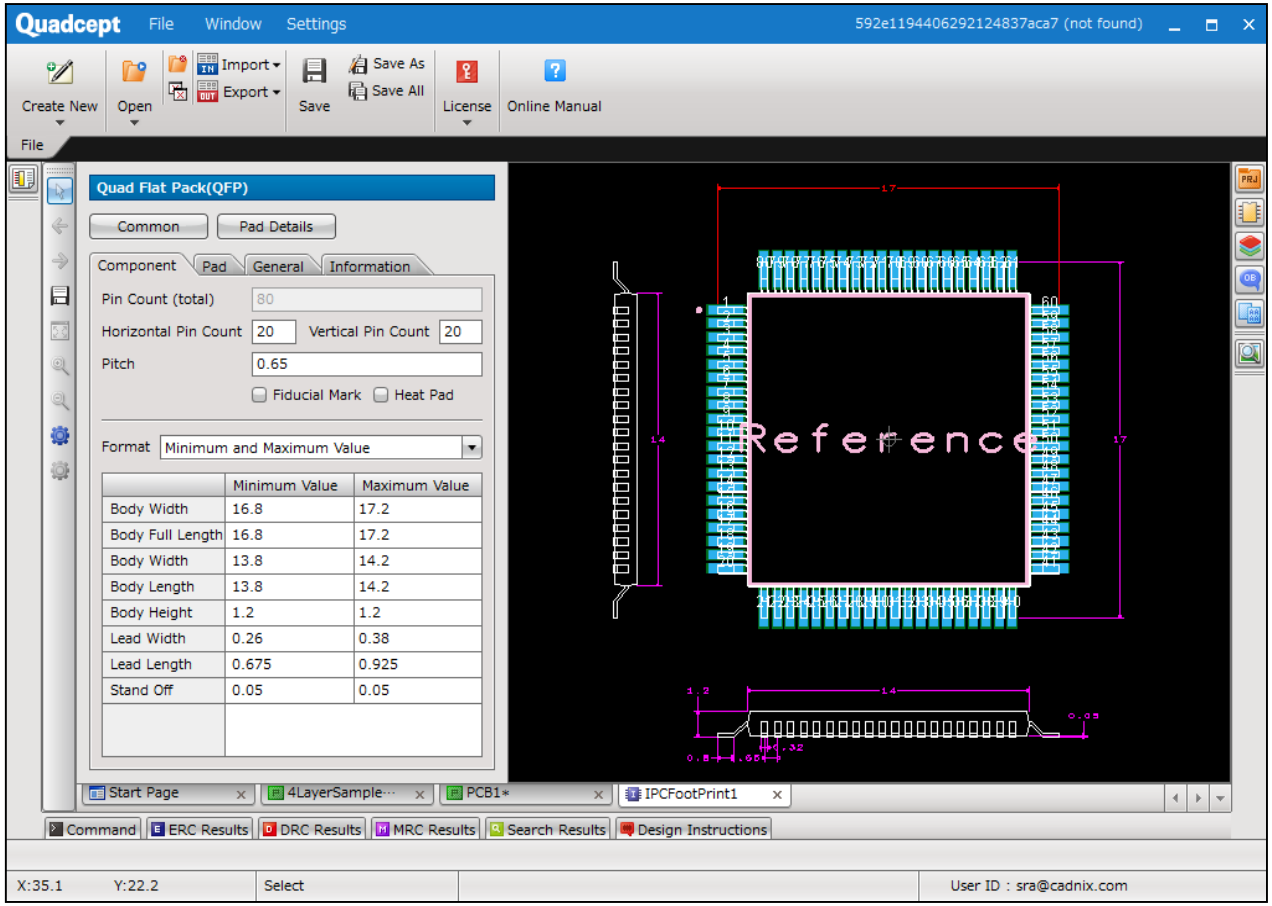
+Rohm Part Number

+Digikey Part Number



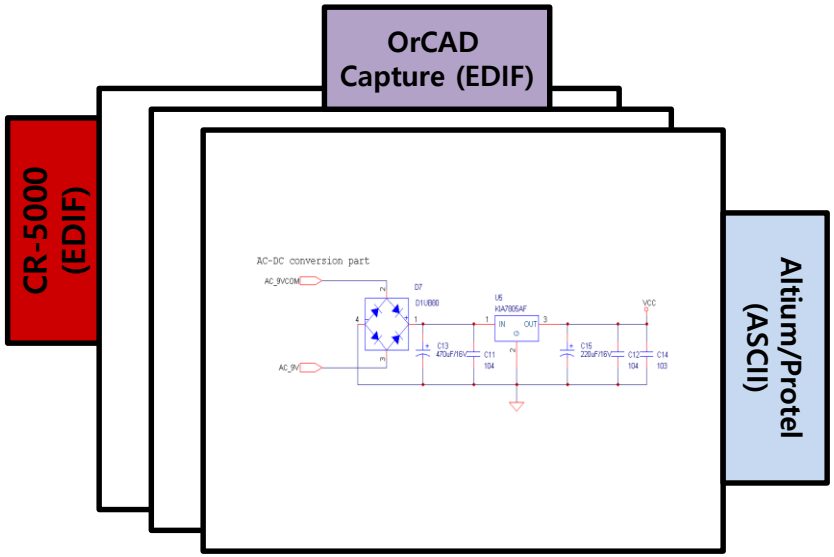
3. Library – Wizard(IPC)

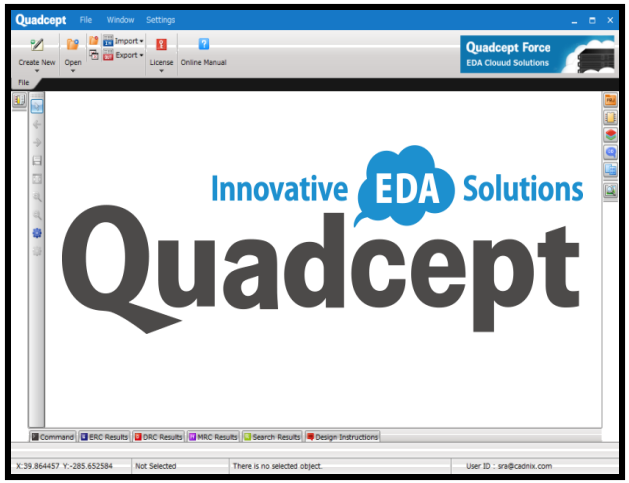




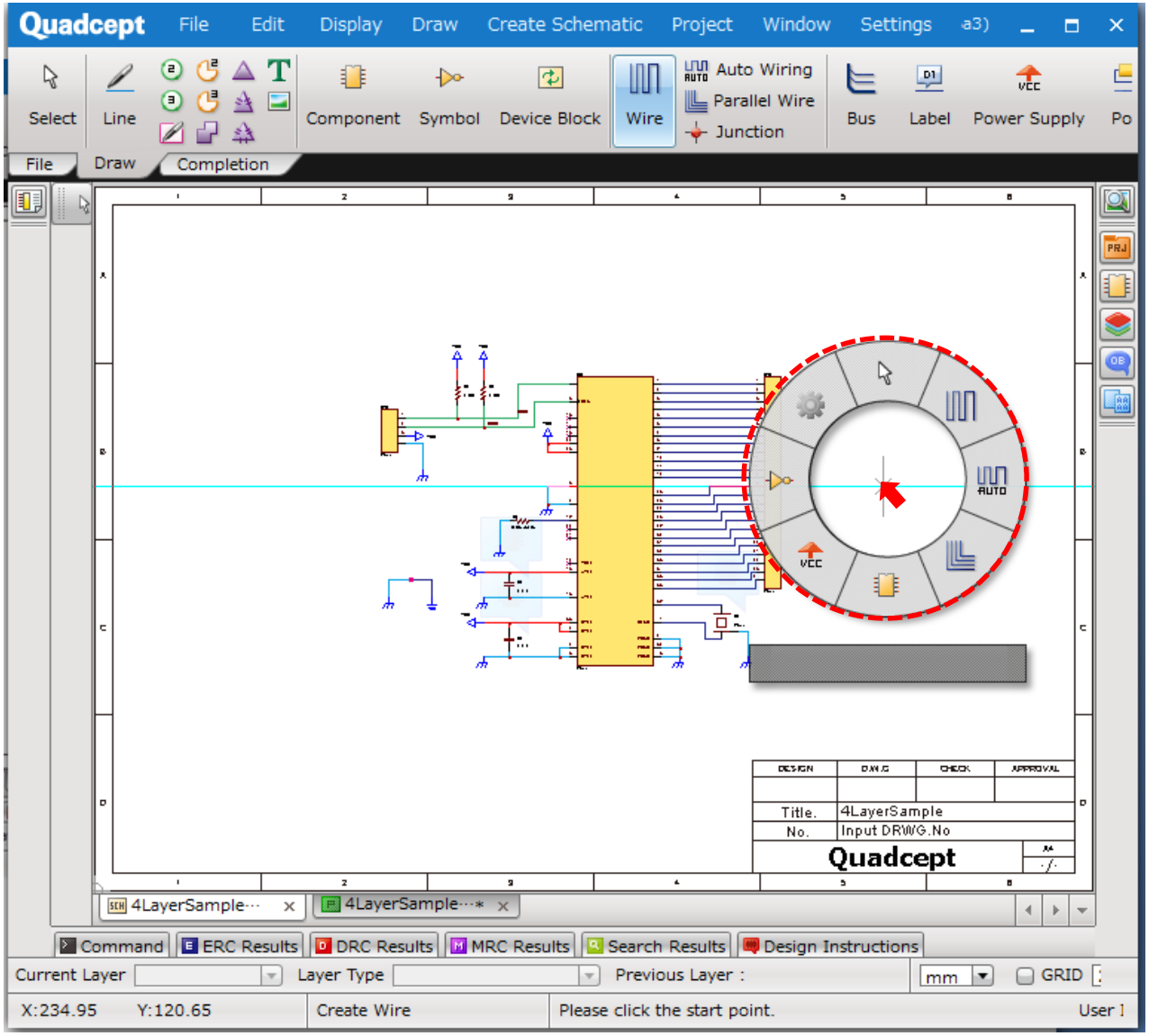
S C H E M A T I C

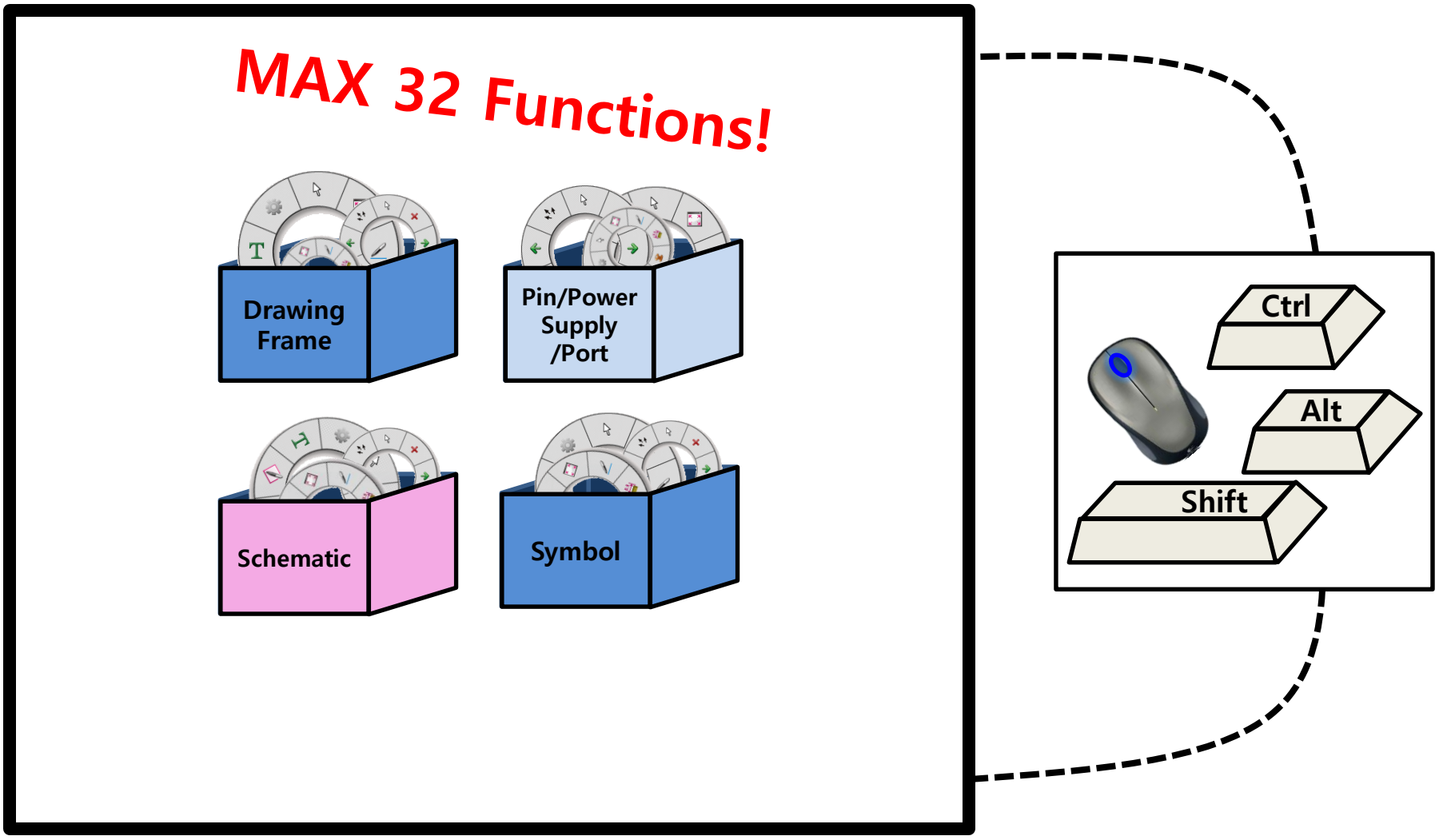
4. Schematic – Interface



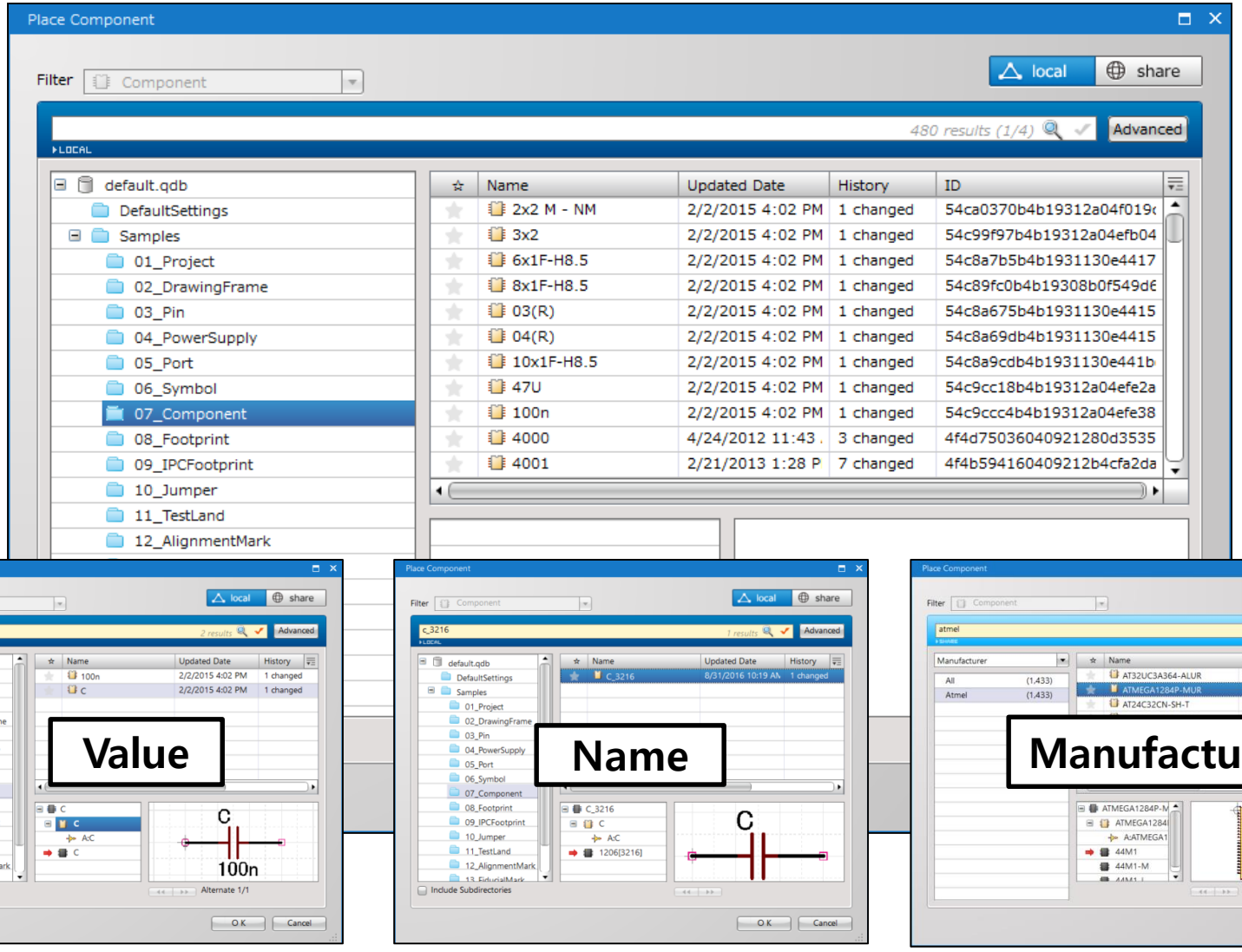


4. Schematic – Stroke (1/2)

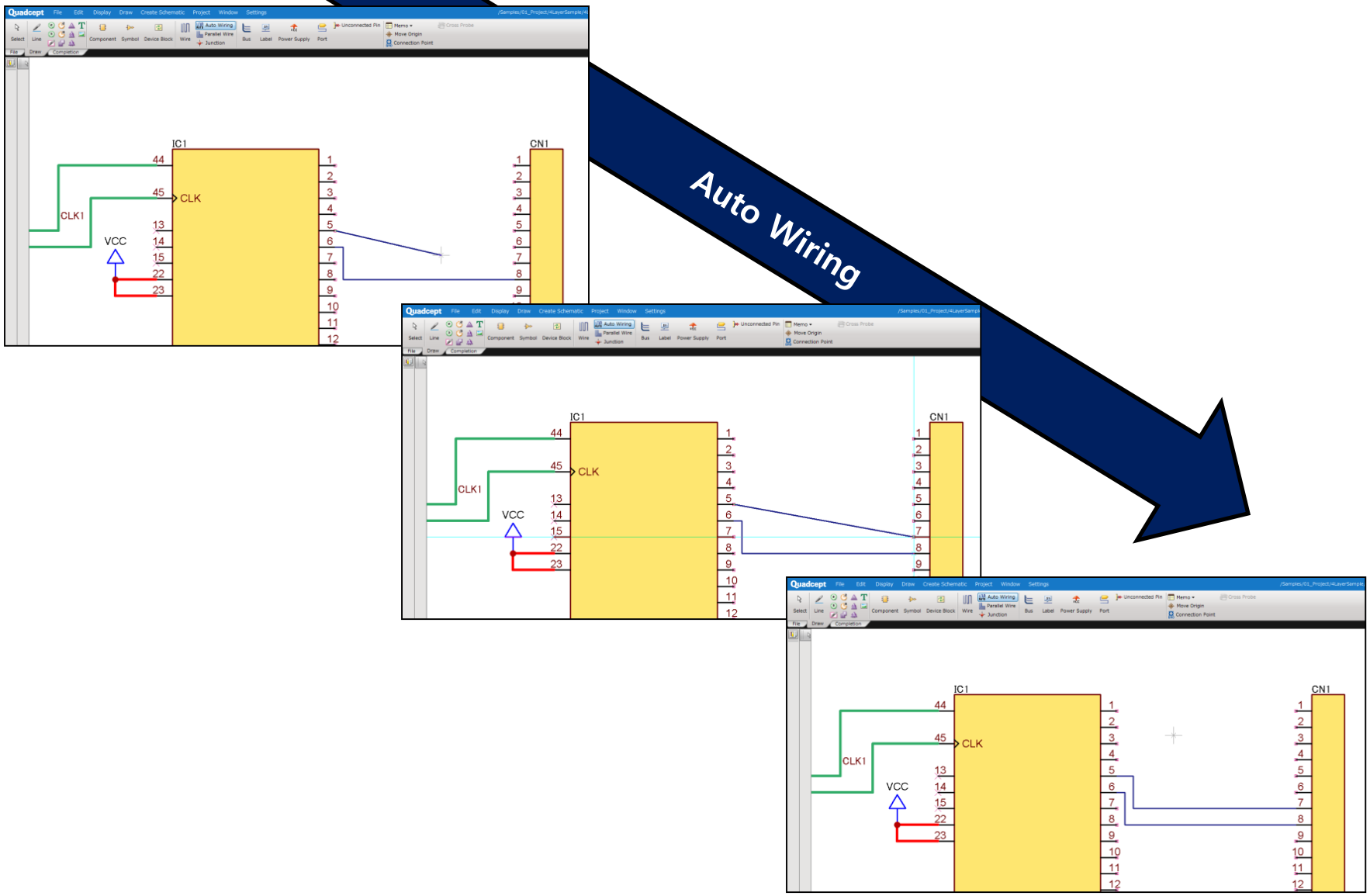



MAX 32 Functions!
Drawing Frame
Pin/Power Supply /Port
Schematic
Symbol
Ctrl
Alt
Shift

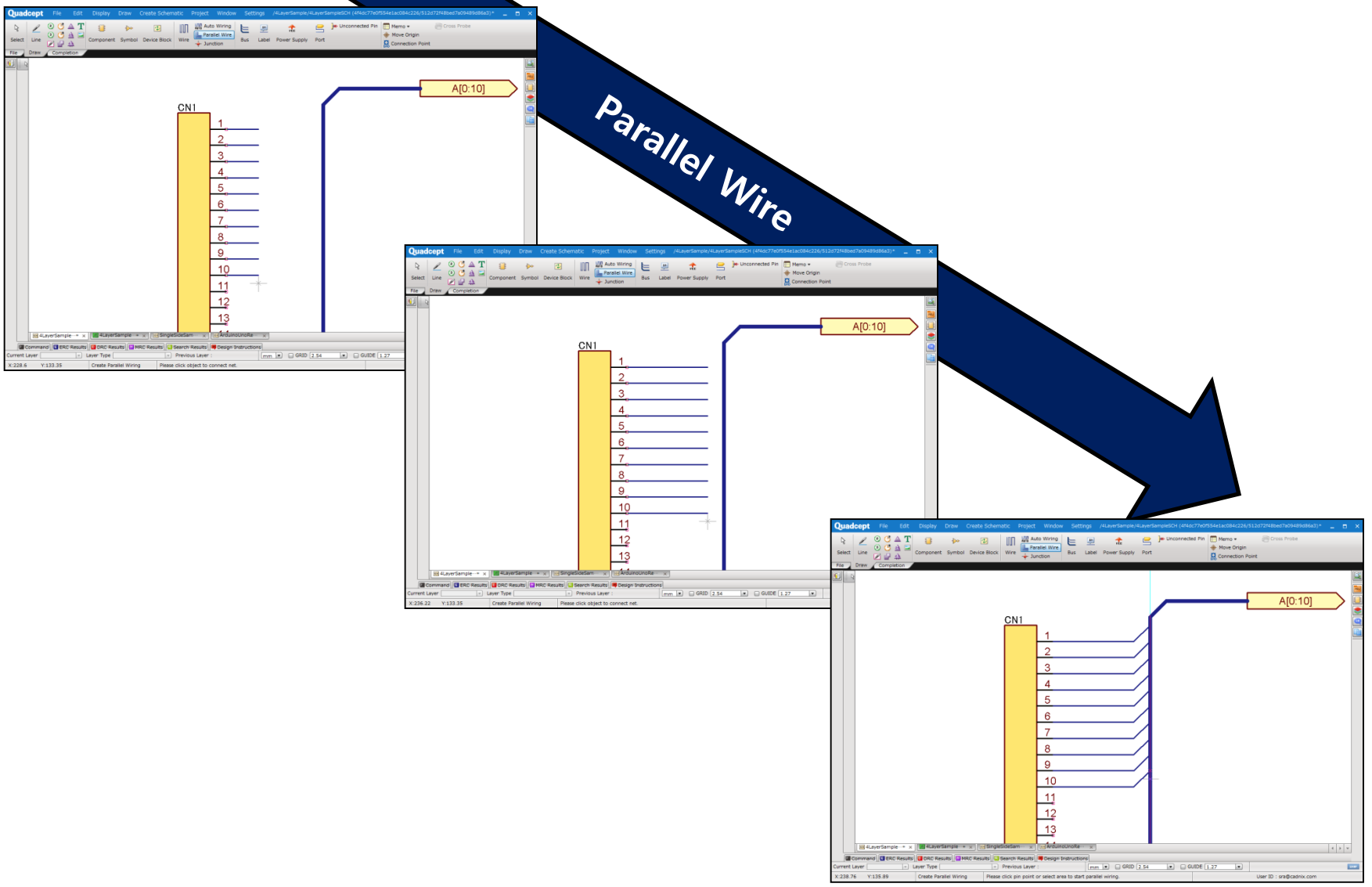
4. Schematic – Search



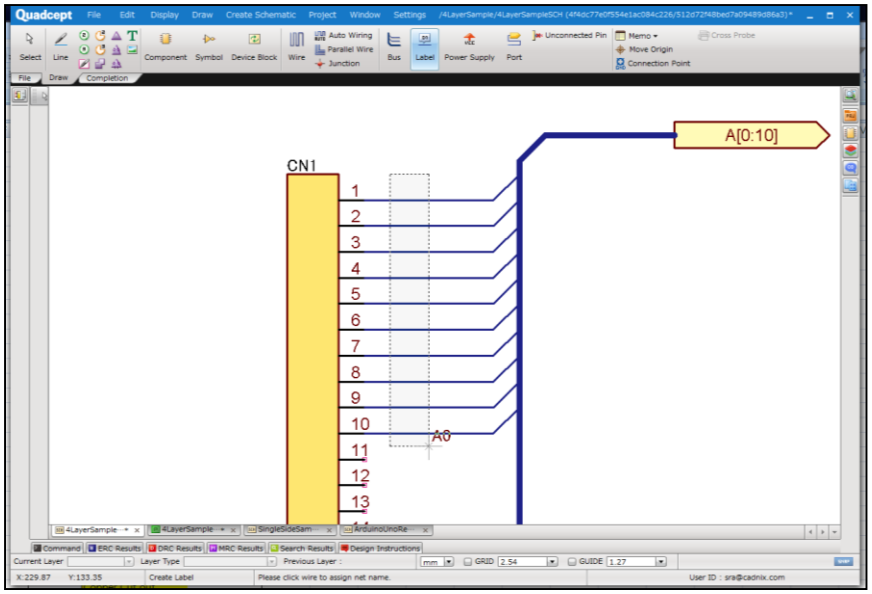
4. Schematic – Auto Wiring



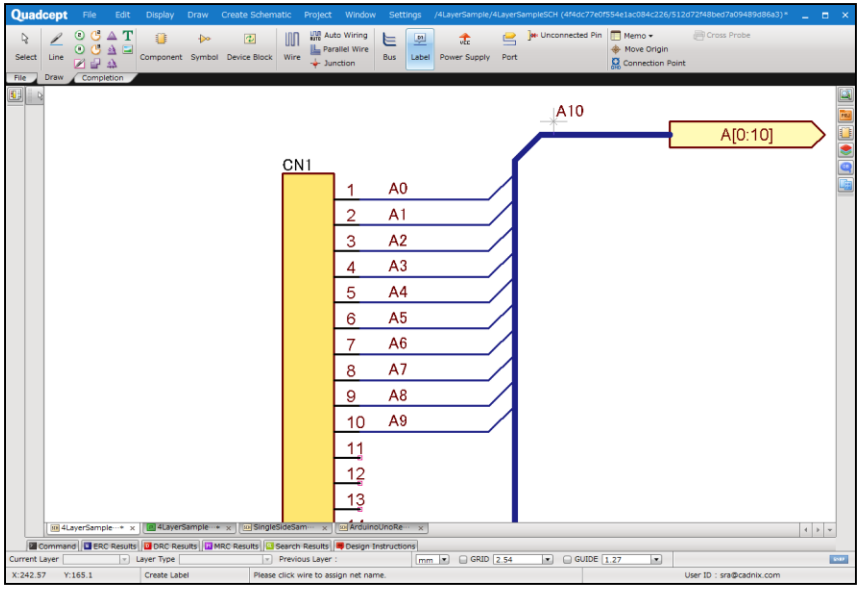
Schematic – Parallel Wire



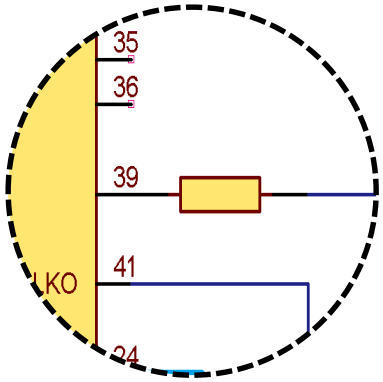
4. Schematic – Auto Label

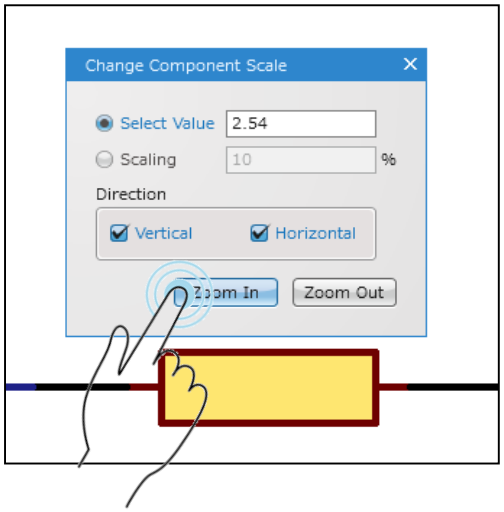


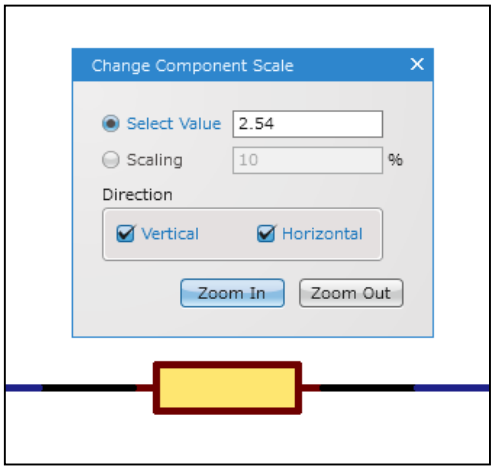
Auto Label

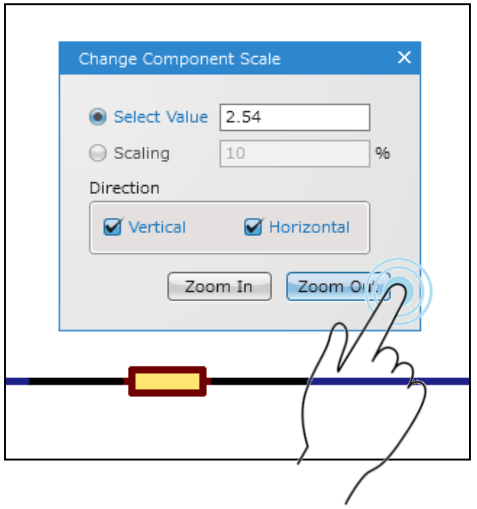


4. Schematic – Symbol Scale





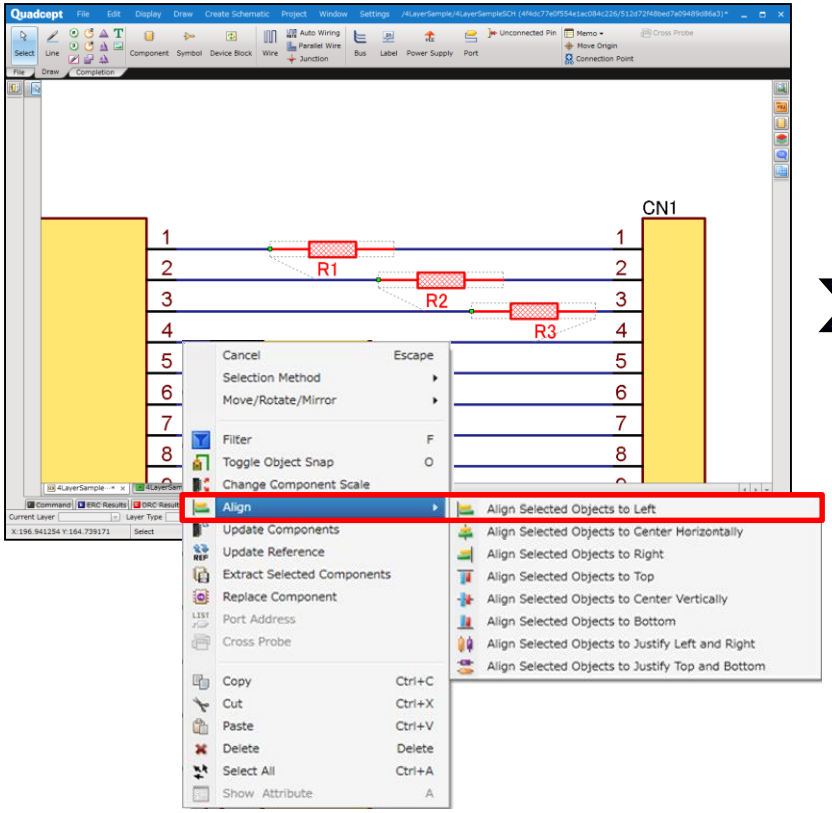


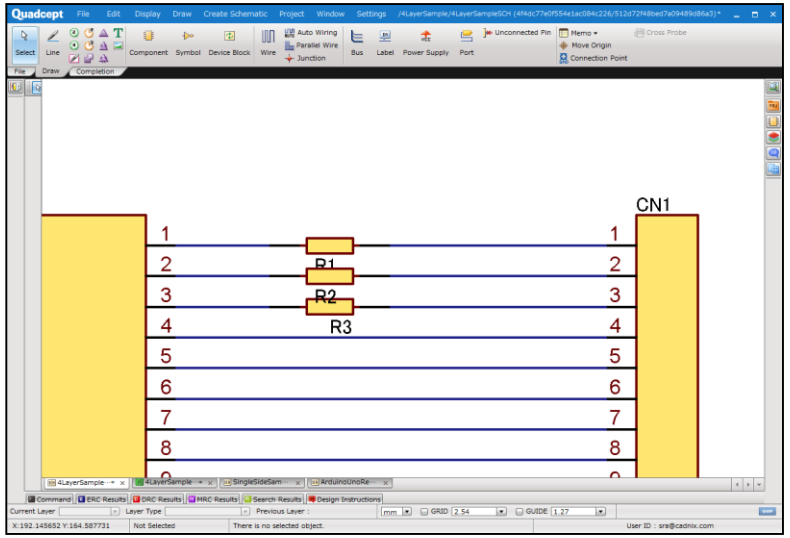


Zoom In

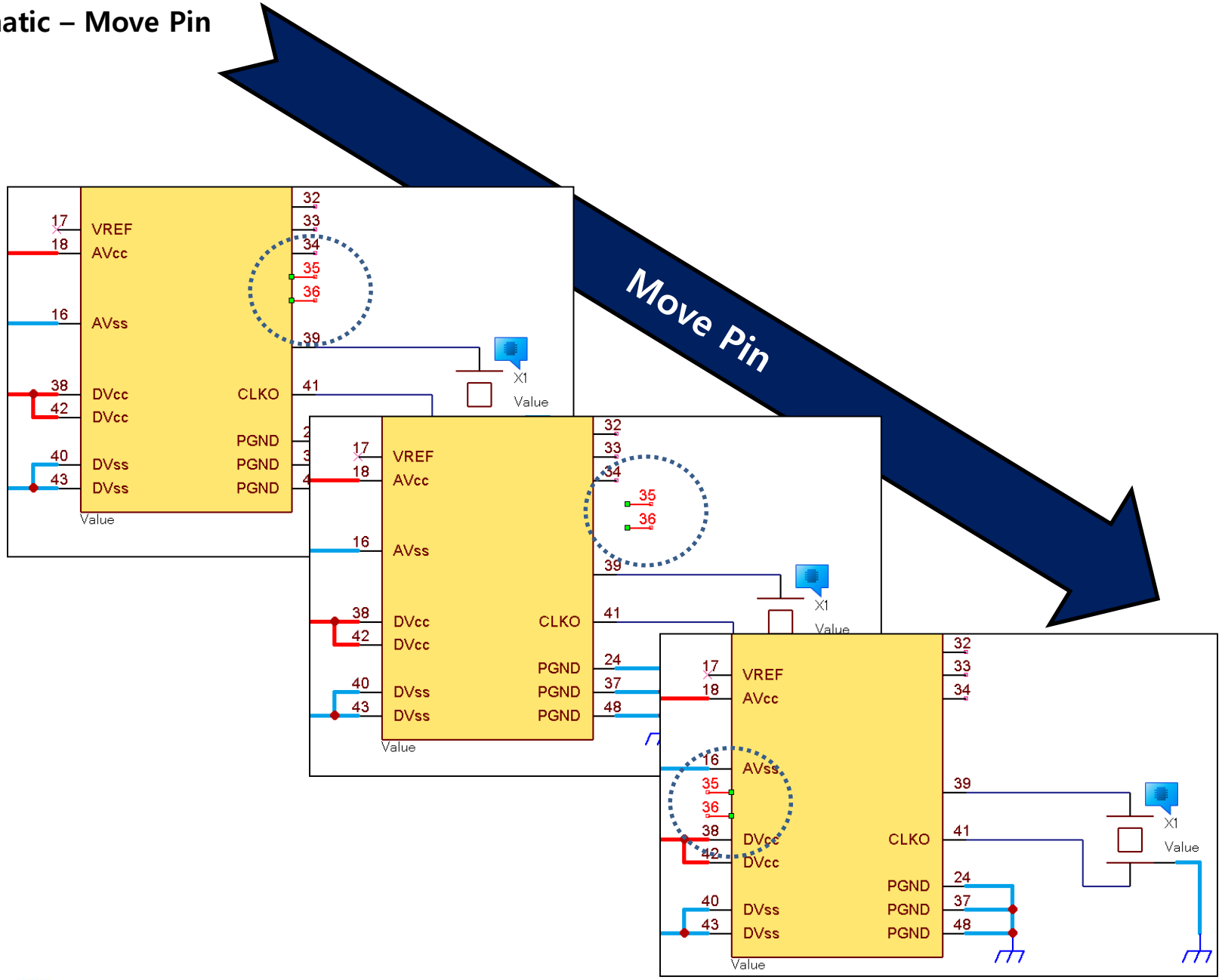
Zoom Out

4. Schematic – Alignment

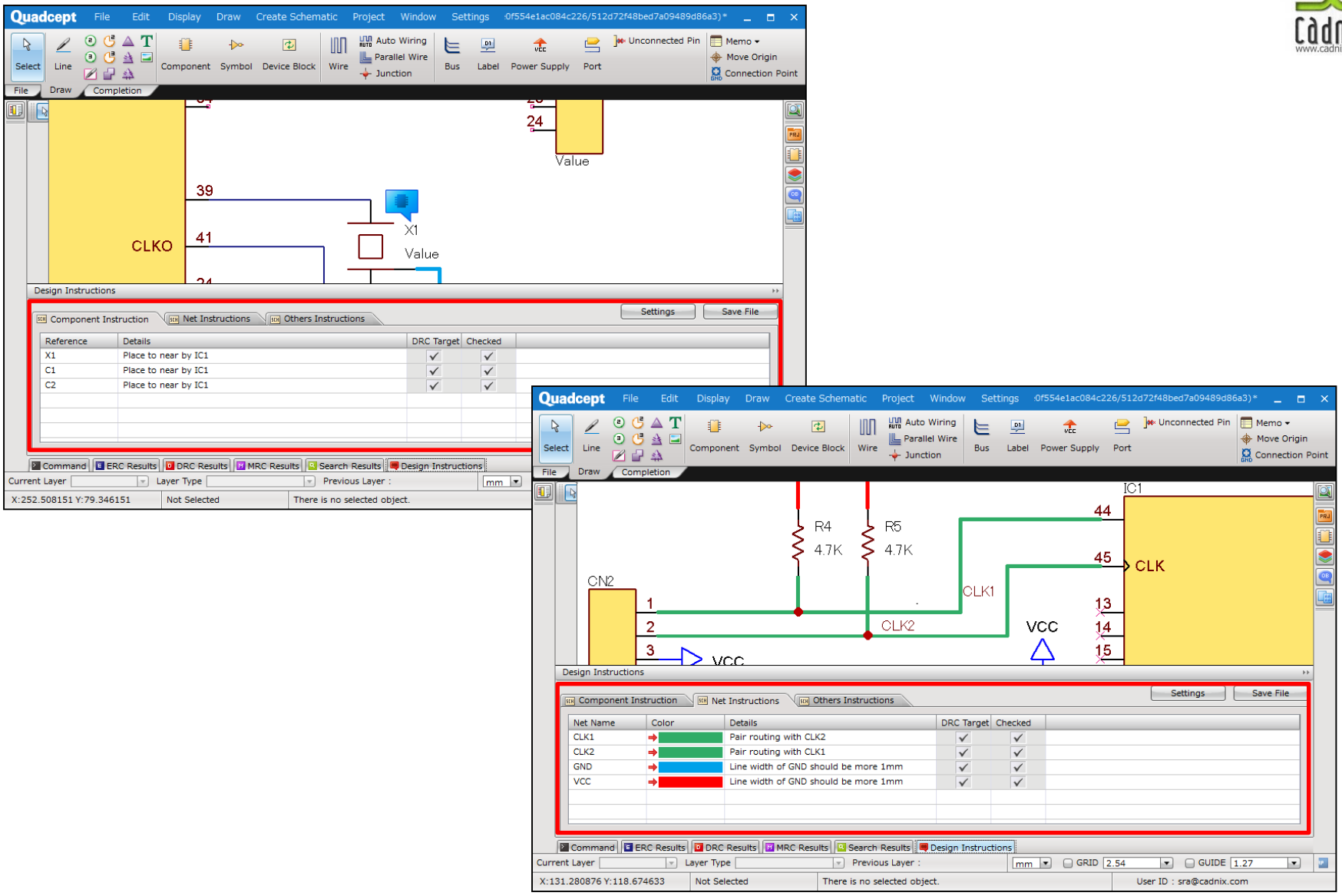




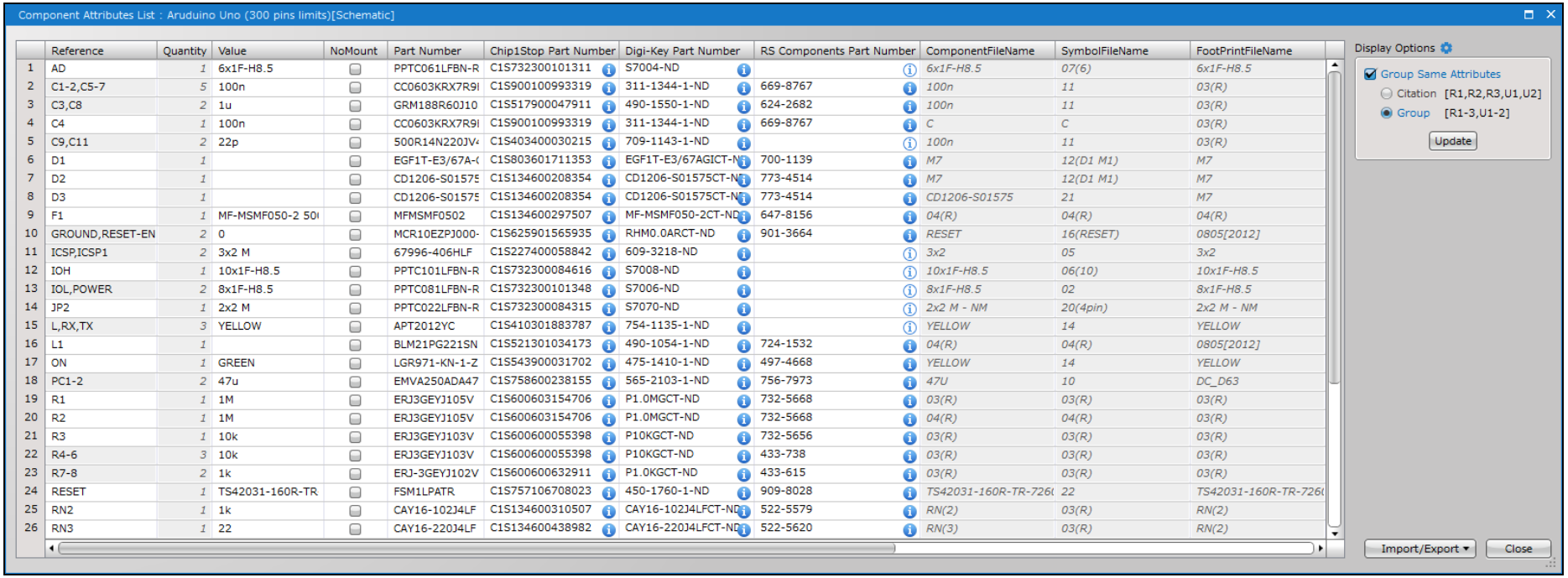
Schematic – Move Pin



4. Schematic – Design Instruction



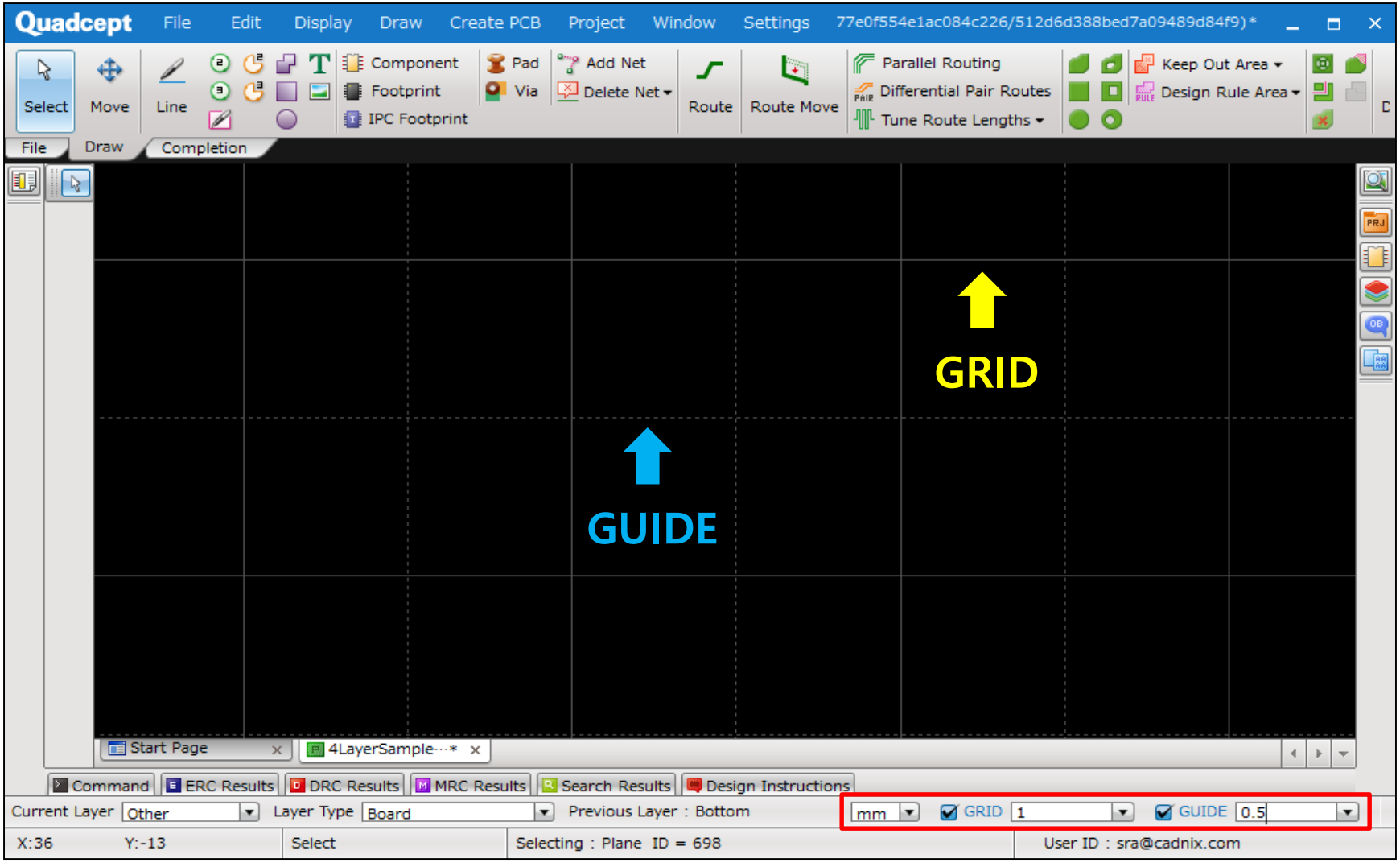
4. Schematic – BOM



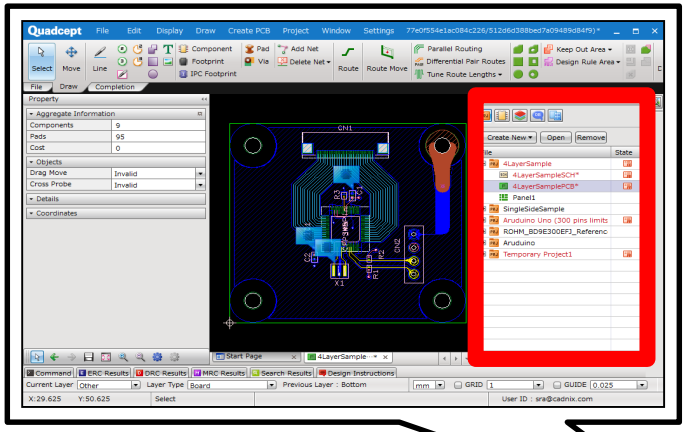
	Reference	Quantity	Value	NoMount	Part Number	Chip1Stop Part Number	Digi-Key Part Number	RS Components Part Number	ComponentFileName	SymbolFileName	FootPrintFileName
1	AD	1	6x1F-H8.5		PPTC061LFBN-R	C1S732300101311	S7004-ND		6x1F-H8.5	07(6)	6x1F-H8.5
2	C1-2,C5-7	5	100n		CC0603KRX7R9I	C1S900100993319	311-1344-1-ND	669-8767	100n	11	03(R)
3	C3,C8	2	1u		GRM188R60J10	C1S517900047911	490-1550-1-ND	624-2682	100n	11	03(R)
4	C4	1	100n		CC0603KRX7R9I	C1S900100993319	311-1344-1-ND	669-8767	C	C	03(R)
5	C9,C11	2	22p		500R14N220JV4	C1S403400030215	709-1143-1-ND		100n	11	03(R)
6	D1	1			EGF1T-E3/67A-(	C1S803601711353	EGF1T-E3/67AGICT-N	700-1139	M7	12(D1 M1)	M7
7	D2	1			CD1206-S01575	C1S134600208354	CD1206-S01575CT-N	773-4514	M7	12(D1 M1)	M7
8	D3	1			CD1206-S01575	C1S134600208354	CD1206-S01575CT-N	773-4514	CD1206-S01575	21	M7
9	F1	1	MF-MSMF050-2 50(		MFMSMF0502	C1S134600297507	MF-MSMF050-2CT-ND	647-8156	04(R)	04(R)	04(R)
10	GROUND,RESET-EN	2	0		MCR10EZPJ000-	C1S625901565935	RHM0.0ARCT-ND	901-3664	RESET	16(RESET)	0805[2012]
11	ICSP,ICSP1	2	3x2 M		67996-406HLF	C1S227400058842	609-3218-ND		3x2	05	3x2
12	IOH	1	10x1F-H8.5		PPTC101LFBN-R	C1S732300084616	S7008-ND		10x1F-H8.5	06(10)	10x1F-H8.5
13	IOL,POWER	2	8x1F-H8.5		PPTC081LFBN-R	C1S732300101348	S7006-ND		8x1F-H8.5	02	8x1F-H8.5
14	JP2	1	2x2 M		PPTC022LFBN-R	C1S732300084315	S7070-ND		2x2 M - NM	20(4pin)	2x2 M - NM
15	L,RX,TX	3	YELLOW		APT2012YC	C1S410301883787	754-1135-1-ND		YELLOW	14	YELLOW
16	L1	1			BLM21PG221SN	C1S521301034173	490-1054-1-ND	724-1532	04(R)	04(R)	0805[2012]
17	ON	1	GREEN		LGR971-KN-1-Z	C1S543900031702	475-1410-1-ND	497-4668	YELLOW	14	YELLOW
18	PC1-2	2	47u		EMVA250ADA47	C1S758600238155	565-2103-1-ND	756-7973	47U	10	DC_D63
19	R1	1	1M		ERJ3GEYJ105V	C1S600603154706	P1.0MGCT-ND	732-5668	03(R)	03(R)	03(R)
20	R2	1	1M		ERJ3GEYJ105V	C1S600603154706	P1.0MGCT-ND	732-5668	04(R)	04(R)	03(R)
21	R3	1	10k		ERJ3GEYJ103V	C1S600600055398	P10KGCT-ND	732-5656	03(R)	03(R)	03(R)
22	R4-6	3	10k		ERJ3GEYJ103V	C1S600600055398	P10KGCT-ND	433-738	03(R)	03(R)	03(R)
23	R7-8	2	1k		ERJ-3GEYJ102V	C1S600600632911	P1.0KGCT-ND	433-615	03(R)	03(R)	03(R)
24	RESET	1	TS42031-160R-TR		FSM1LPATR	C1S757106708023	450-1760-1-ND	909-8028	TS42031-160R-TR-726(	22	TS42031-160R-TR-726(
25	RN2	1	1k		CAY16-102J4LF	C1S134600310507	CAY16-102J4LFCT-ND	522-5579	RN(2)	03(R)	RN(2)
26	RN3	1	22		CAY16-220J4LF	C1S134600438982	CAY16-220J4LFCT-ND	522-5620	RN(3)	03(R)	RN(2)

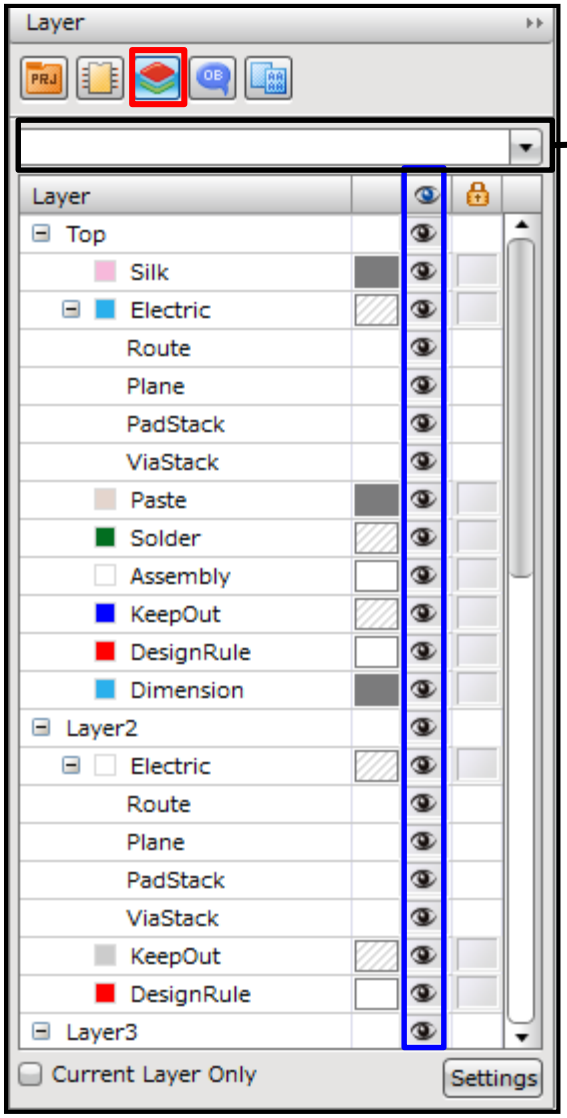
P C B

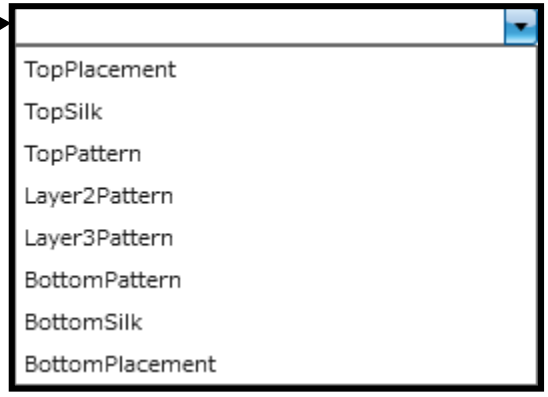
5. PCB – Grid


Quadcept
File
Edit
Display
Draw
Create PCB
Project
Window
Settings
Select
Move
Line
Component
Footprint
IPC Footprint
Pad
Via
Add Net
Delete Net
Route
Route Move
Parallel Routing
Differential Pair Routes
Tune Route Lengths
Keep Out Area
Design Rule Area
File
Draw
Completion
GRID
GUIDE
Start Page
4LayerSample
Command
ERC Results
DRC Results
MRC Results
Search Results
Design Instructions
Current Layer
Other
Layer Type
Board
Previous Layer : Bottom
mm
GRID
1
GUIDE
0.5
X:36
Y:-13
Select
Selecting : Plane ID = 698
User ID : sra@cadnix.com

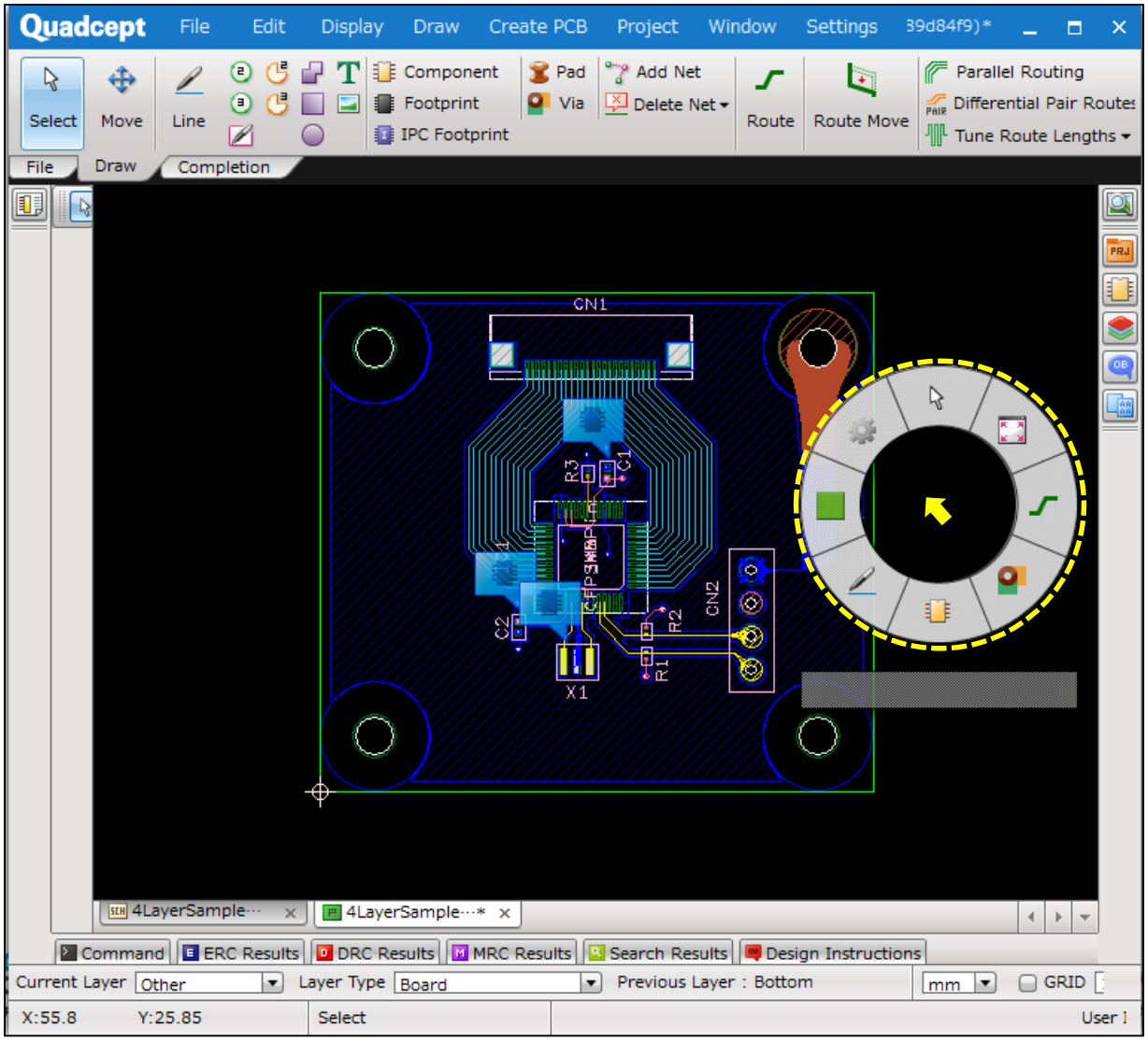
PCB – Layer

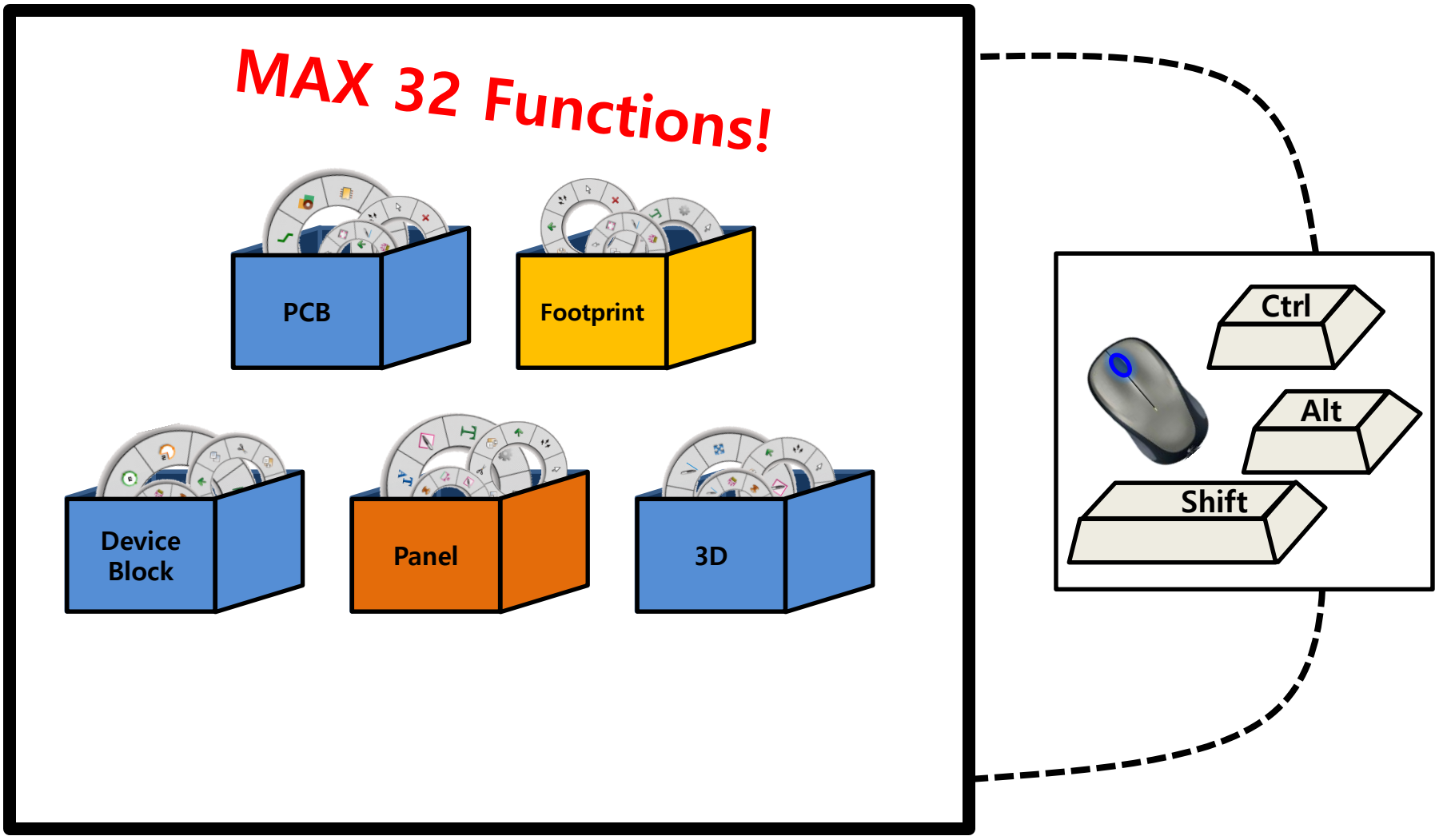



Layer
Layer
Top
Silk
Electric
Route
Plane
PadStack
ViaStack
Paste
Solder
Assembly
KeepOut
DesignRule
Dimension
Layer2
Electric
Route
Plane
PadStack
ViaStack
KeepOut
DesignRule
Layer3
Current Layer Only
Settings

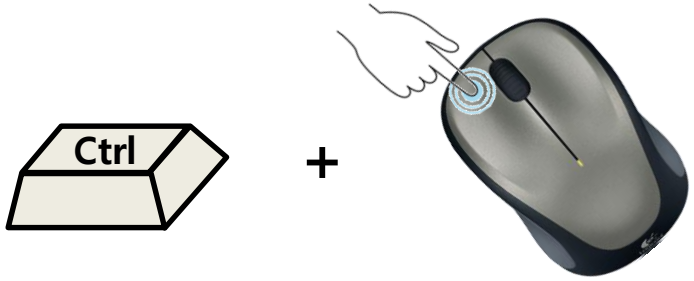

TopPlacement
TopSilk
TopPattern
Layer2Pattern
Layer3Pattern
BottomPattern
BottomSilk
BottomPlacement

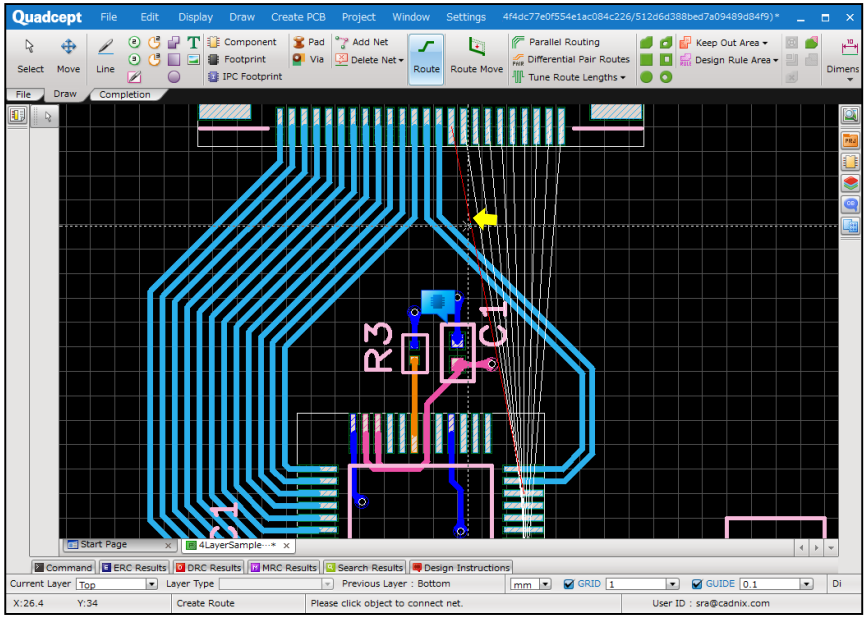
5. PCB – Stroke (1/2)

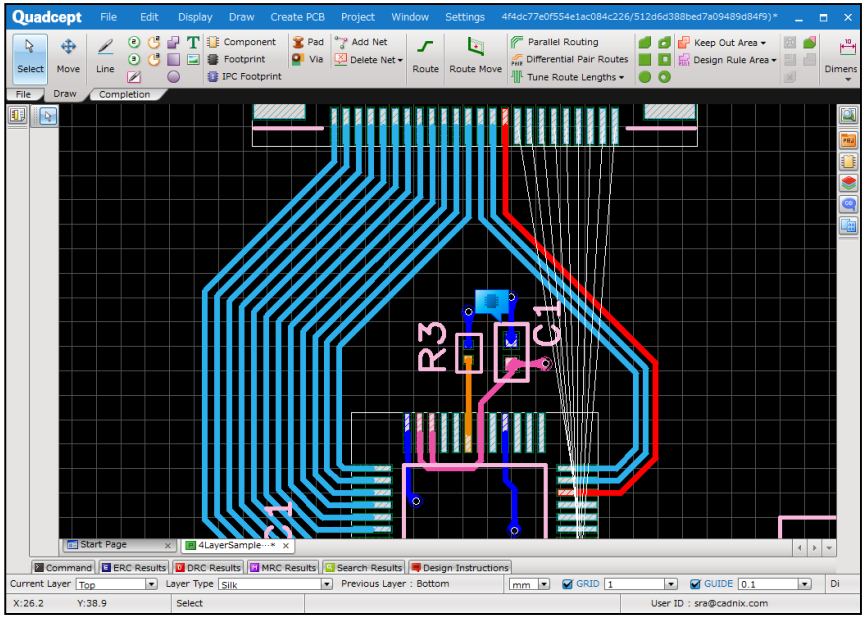



MAX 32 Functions!
PCB
Footprint
Device Block
Panel
3D
Ctrl
Alt
Shift

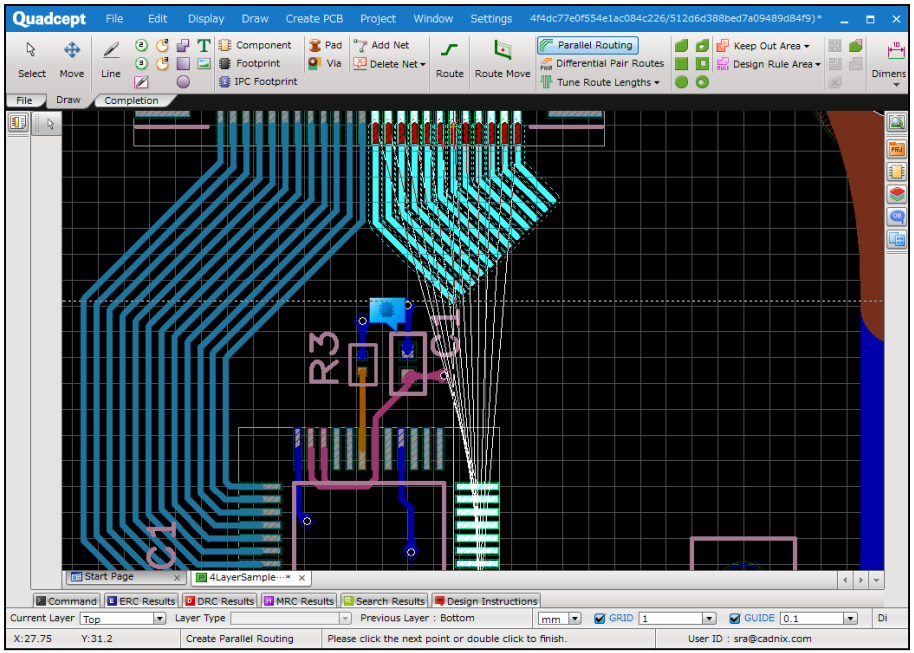
5. PCB – Routing (1/3)

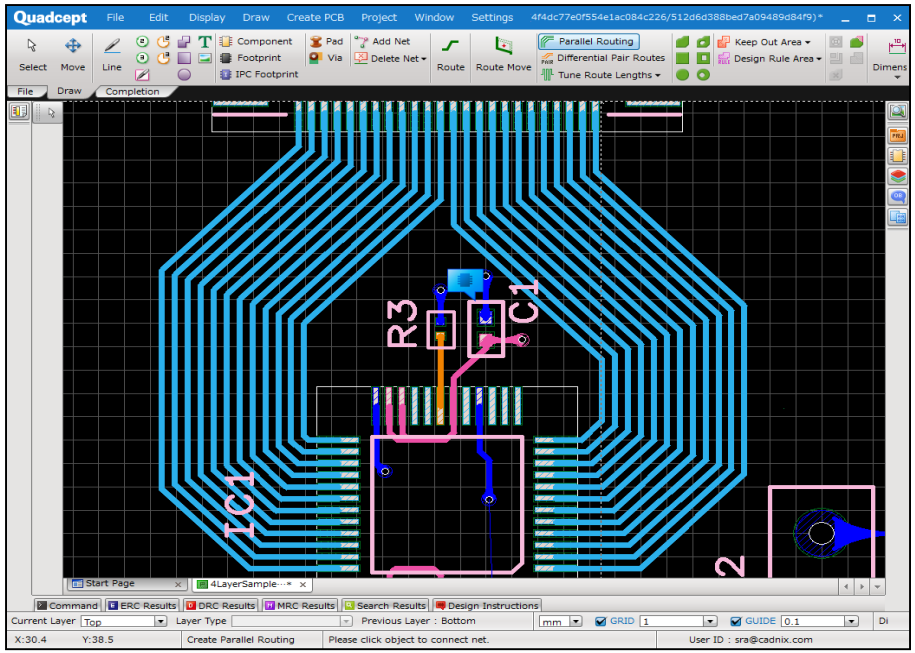




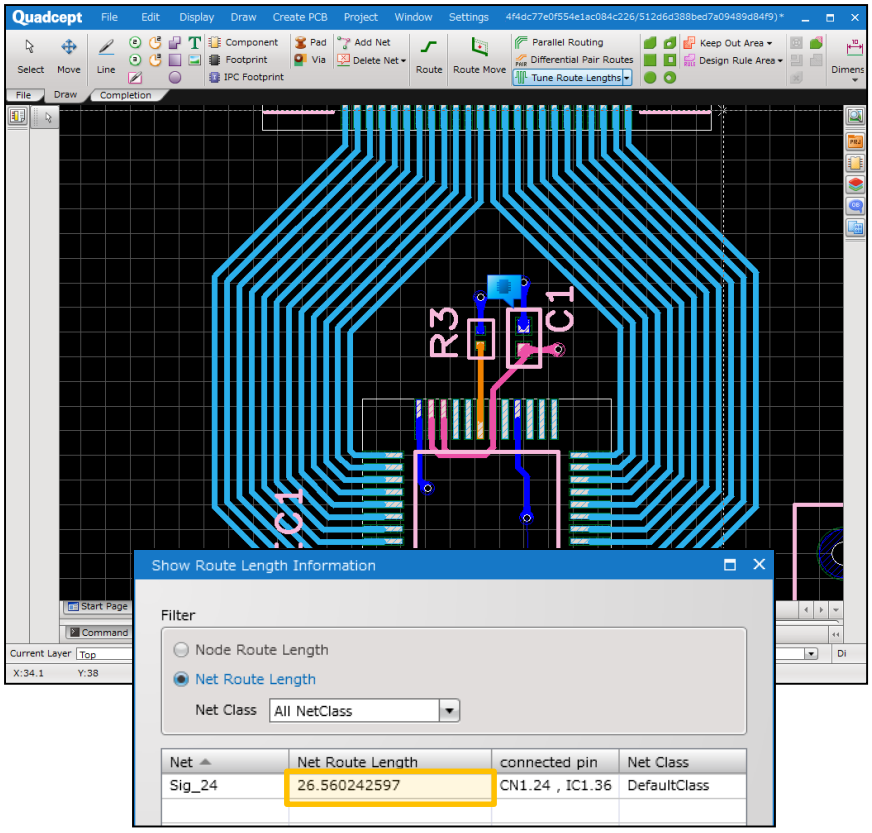


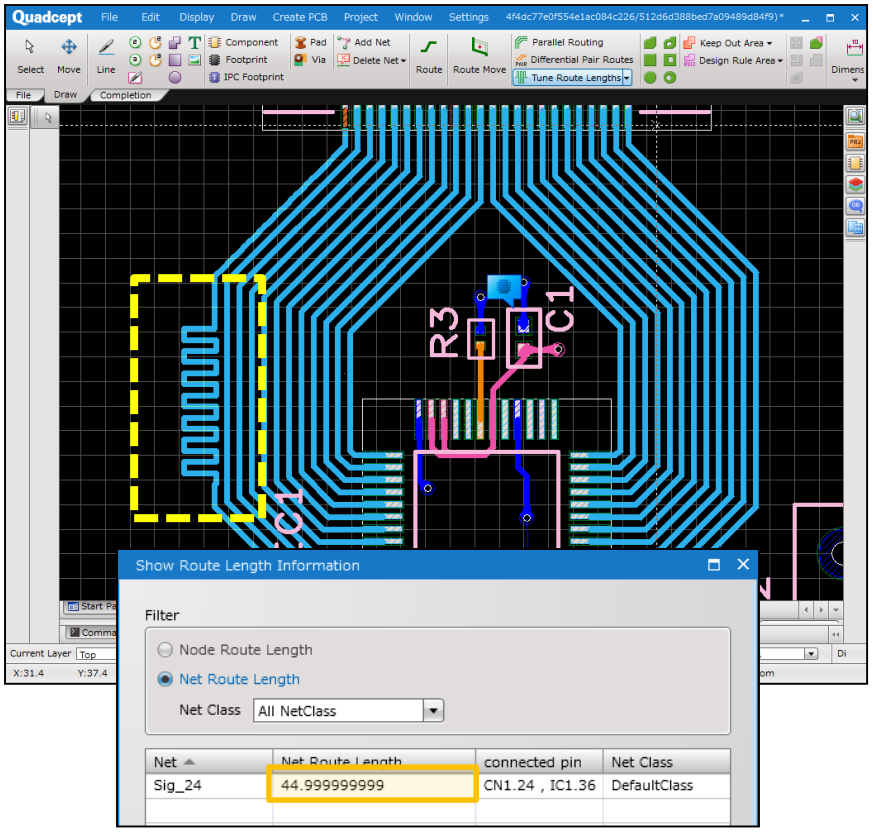
5. PCB – Routing (2/3)





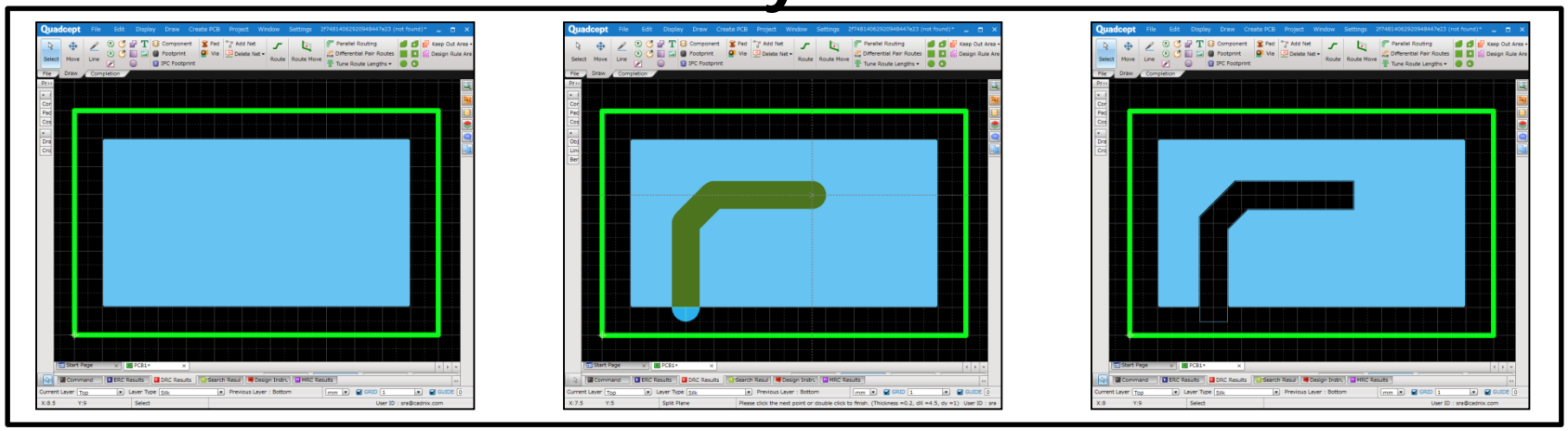
5. PCB – Routing (3/3)



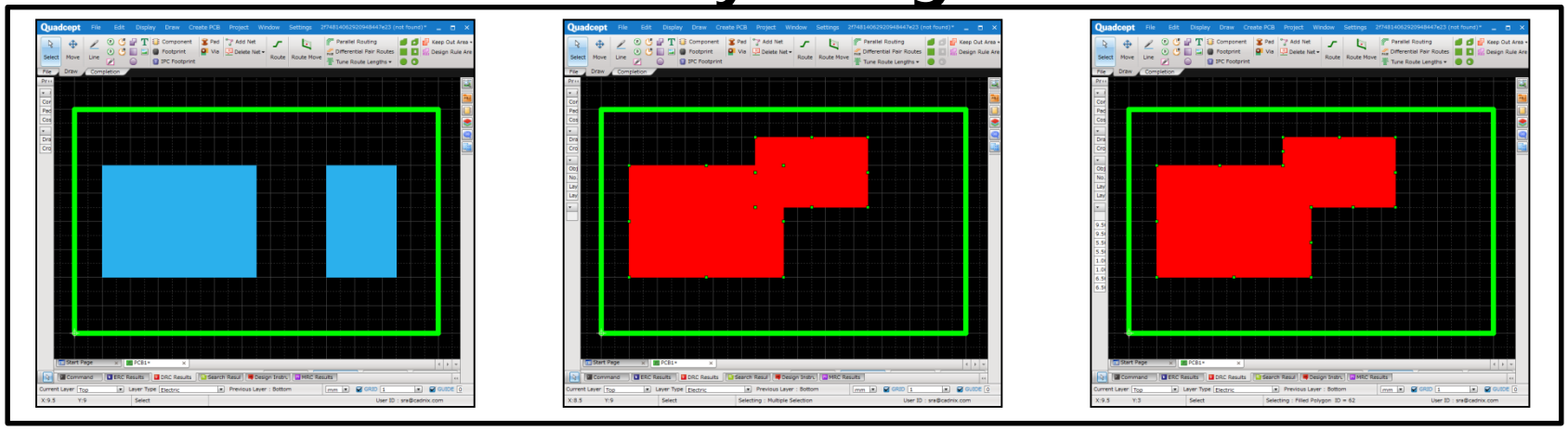


CadniX
www.cadnix.com

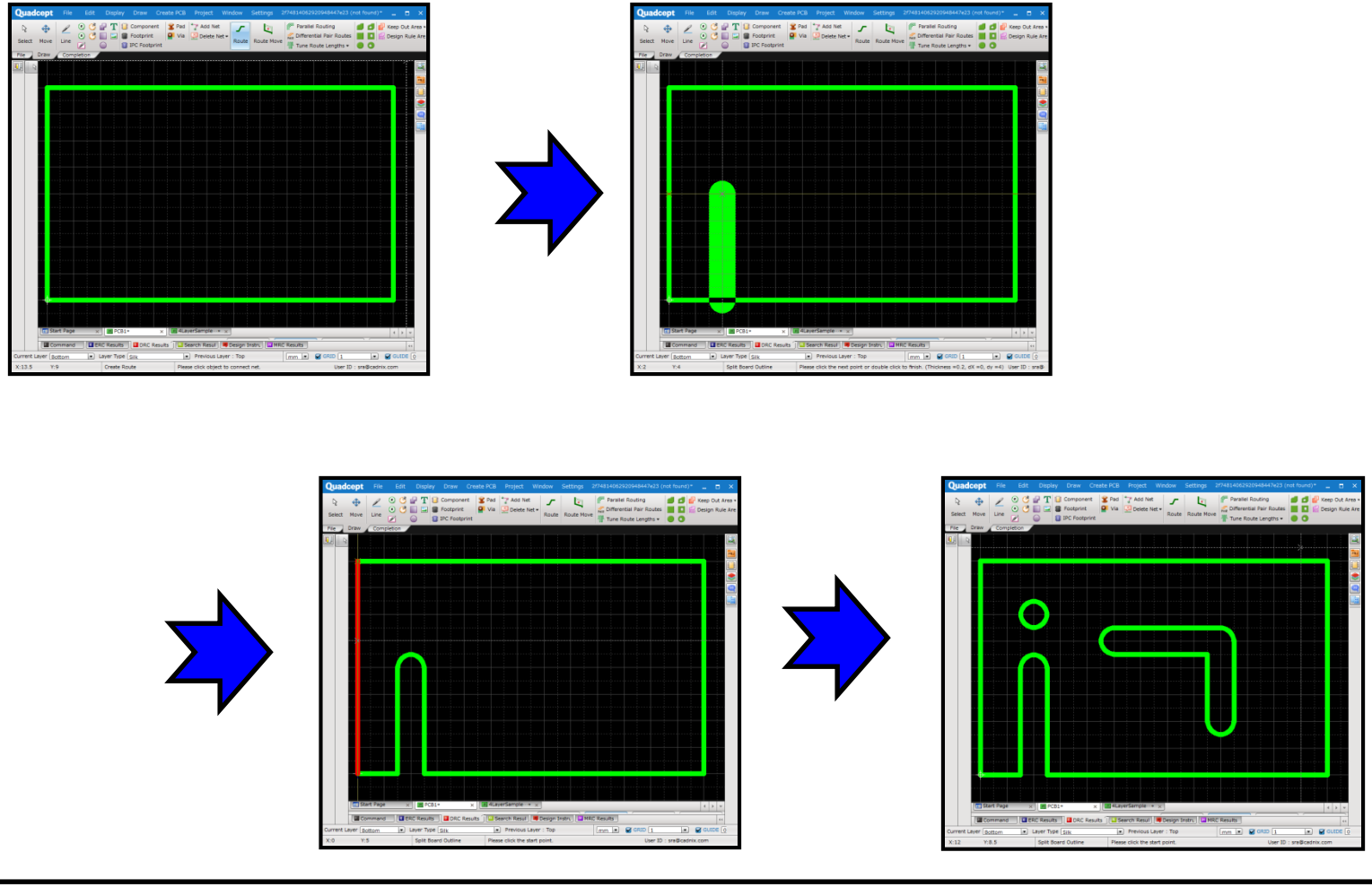
Easy Cut!



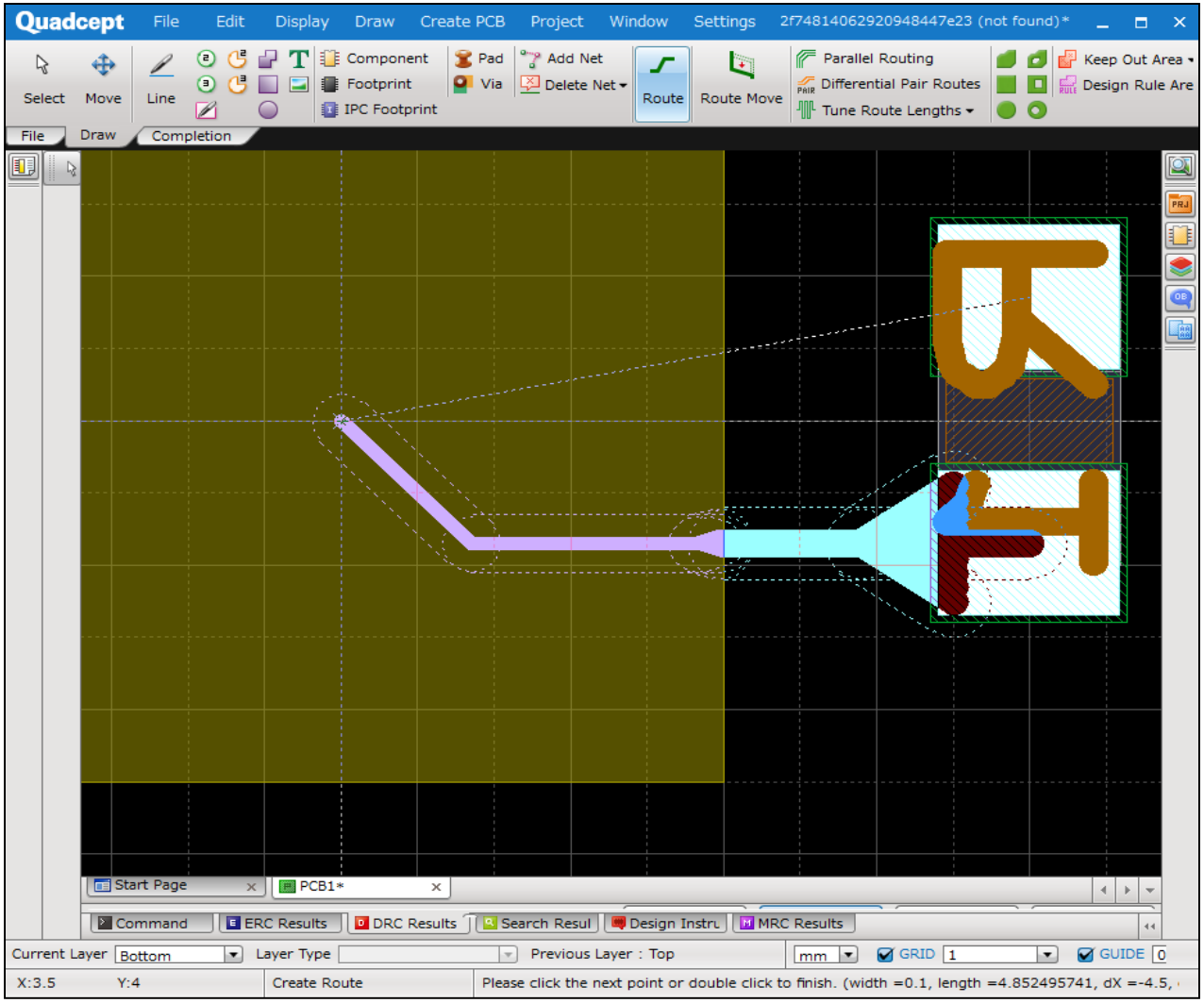
Easy Merge!



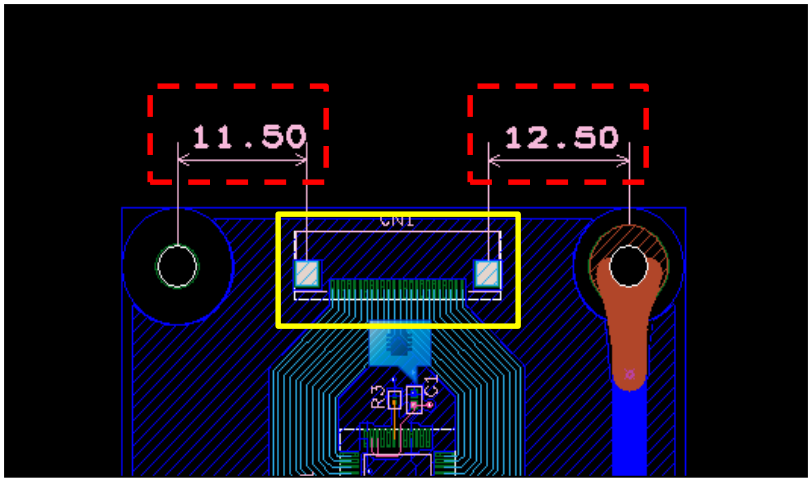
Easy Cut!

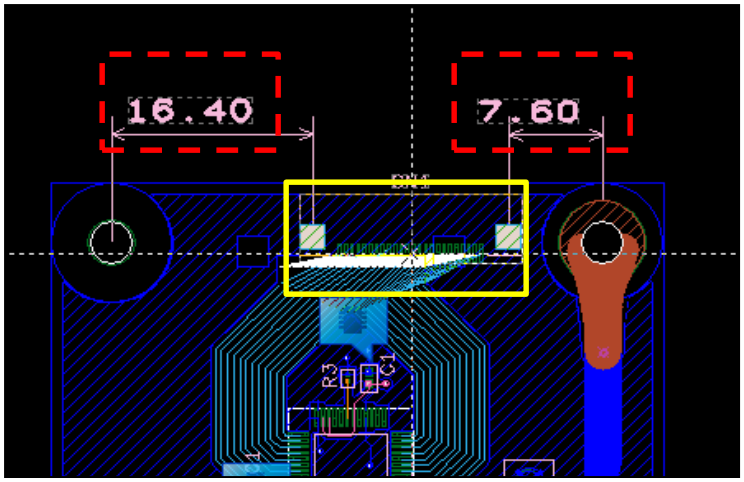


5. PCB – Design Rule Area

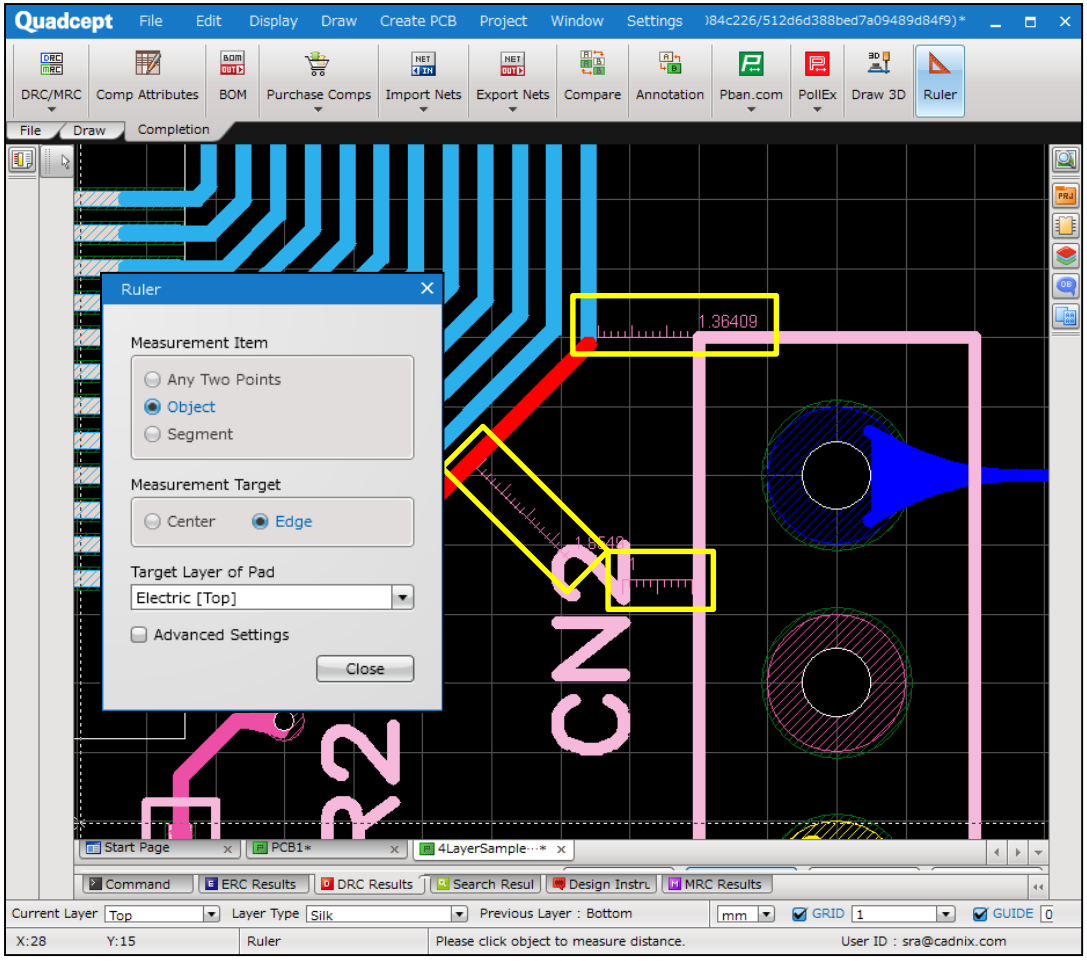


5. PCB – Dimension

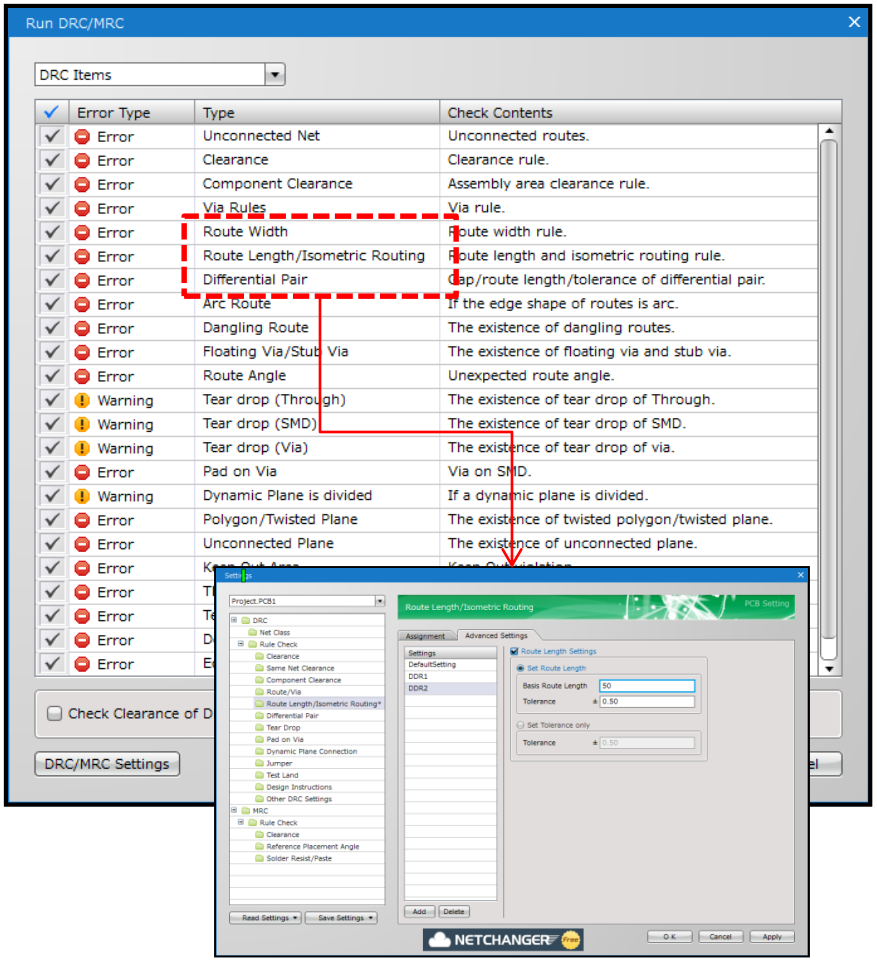


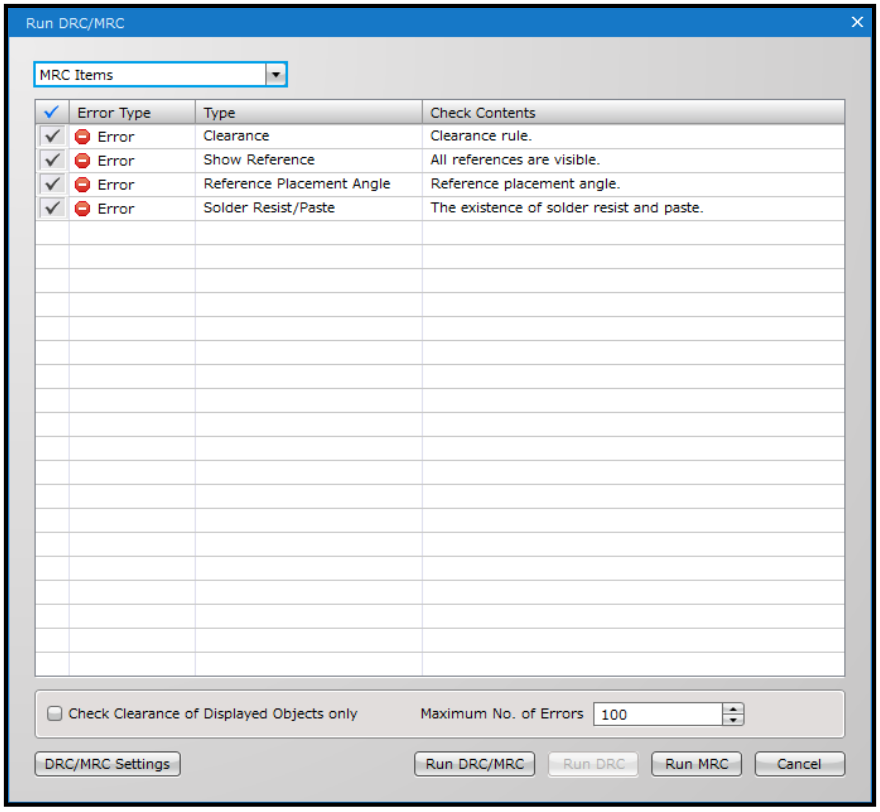


5. PCB – Ruler

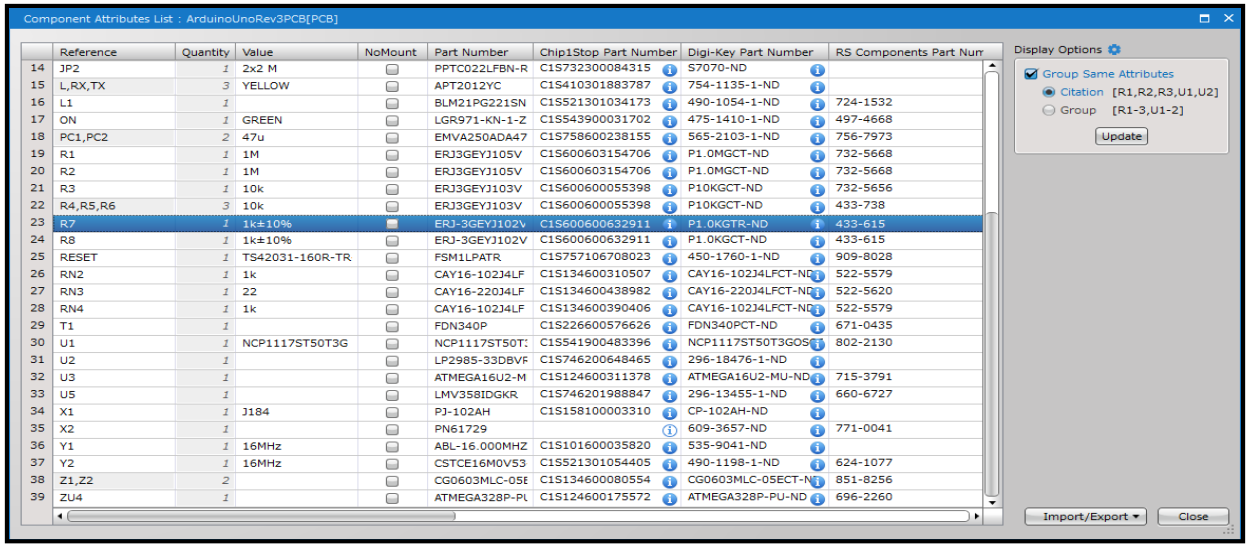

Quadcept
File
Edit
Display
Draw
Create PCB
Project
Window
Settings
DRC/MRC
Comp Attributes
BOM
Purchase Comps
Import Nets
Export Nets
Compare
Annotation
Pban.com
PollEx
Draw 3D
Ruler
File
Draw
Completion
Ruler
Measurement Item
Any Two Points
Object
Segment
Measurement Target
Center
Edge
Target Layer of Pad
Electric [Top]
Advanced Settings
Close
1.36409
CN2
R2
Start Page
PCB1*
4LayerSample···*
Command
ERC Results
DRC Results
Search Resul
Design Instru
MRC Results
Current Layer
Top
Layer Type
Silk
Previous Layer : Bottom
mm
GRID
1
GUIDE
0
X:28
Y:15
Ruler
Please click object to measure distance.
User ID : sra@cadnix.com

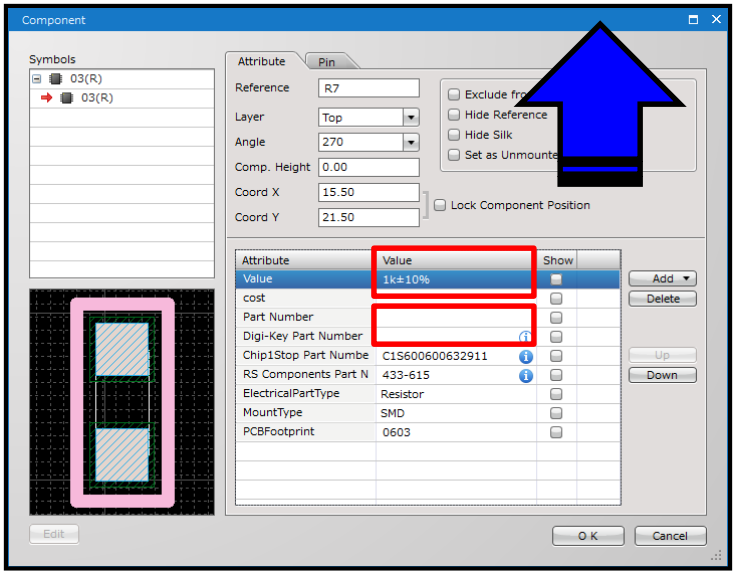
5. PCB – DRC

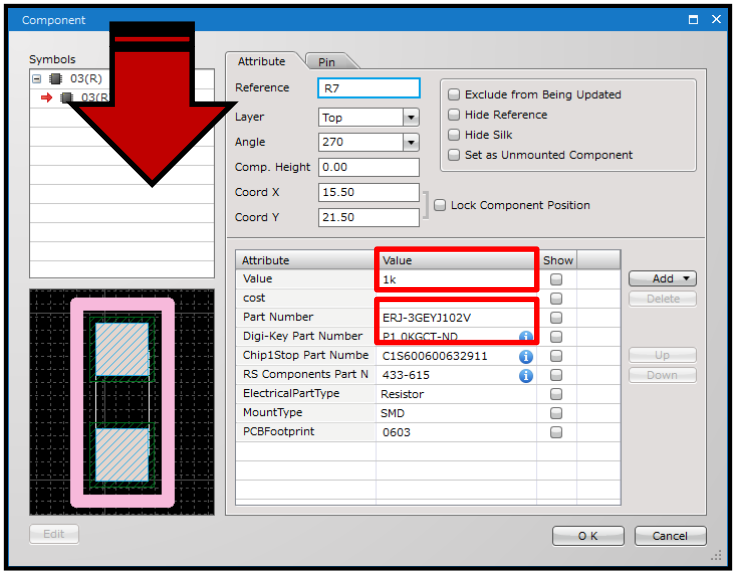

Run DRC/MRC
DRC Items
Error Type
Type
Check Contents
Error Unconnected Net Unconnected routes.
Error Clearance Clearance rule.
Error Component Clearance Assembly area clearance rule.
Error Via Rules Via rule.
Error Route Width Route width rule.
Error Route Length/Isometric Routing Route length and isometric routing rule.
Error Differential Pair Gap/route length/tolerance of differential pair.
Error Arc Route If the edge shape of routes is arc.
Error Dangling Route The existence of dangling routes.
Error Floating Via/Stub Via The existence of floating via and stub via.
Error Route Angle Unexpected route angle.
Warning Tear drop (Through) The existence of tear drop of Through.
Warning Tear drop (SMD) The existence of tear drop of SMD.
Warning Tear drop (Via) The existence of tear drop of via.
Error Pad on Via Via on SMD.
Warning Dynamic Plane is divided If a dynamic plane is divided.
Error Polygon/Twisted Plane The existence of twisted polygon/twisted plane.
Error Unconnected Plane The existence of unconnected plane.
Check Clearance of D
DRC/MRC Settings
Route Length/Isometric Routing
PCB Setting
NETCHANGER


Run DRC/MRC
MRC Items
Error Type
Type
Check Contents
Error Clearance Clearance rule.
Error Show Reference All references are visible.
Error Reference Placement Angle Reference placement angle.
Error Solder Resist/Paste The existence of solder resist and paste.
Check Clearance of Displayed Objects only
Maximum No. of Errors
100
DRC/MRC Settings
Run DRC/MRC
Run DRC
Run MRC
Cancel

5. PCB – Component Attributes







5. PCB – Purchase Comps

Purchase Comps : Aruduino Uno (300 pins limits)_SCH

Distributor | Chip1Stop | Digi-Key | RS Components

Order	Digi-Key Part Number	References	NoMount	Qty	Manufacturer Part Number	Available Qty	Unit Price	Extended Price	MOQ
✓	P1.0KGCT-ND	R7,R8		2	ERJ-3GEYJ102V	30766	122.000C	244.00000	1
✓	P1.0MGCT-ND	R1,R2		2	ERJ-3GEYJ105V	71423	122.000C	244.00000	1
✓	P10KGCT-ND	R4,R5,R6		3	ERJ-3GEYJ103V	0	122.000C	366.00000	1
✓	P10KGCT-ND	R3		1	ERJ-3GEYJ103V	0	122.000C	122.00000	1
✓	ATMEGA16U2-MU-ND	U3		1	ATMEGA16U2-MU	21987	3,084.00	3,084.00000	1
✓	FDN340PCT-ND	T1		1	FDN340P	34217	502.000C	502.00000	1
✓	NCP1117ST50T3GOSCT-ND	U1		1	NCP1117ST50T3G	42901	612.000C	612.00000	1
✓	CAY16-102J4LFCT-ND	RN2		1	CAY16-102J4LF	28610	122.000C	122.00000	1
✓	RHM0.0ARCT-ND	GROUND,RES		2	MCR10EZPJ000	1828359	122.000C	244.00000	1
✓	S7070-ND	JP2		1	PPTC022LFBN-RC	4895	918.000C	918.00000	1
✓	CAY16-102J4LFCT-ND	RN4		1	CAY16-102J4LF	28610	122.000C	122.00000	1
✓	490-1550-1-ND	C3,C8		2	GRM188R60J105KA01D	304721	122.000C	244.00000	1
✓	296-18476-1-ND	U2		1	LP2985-33DBVR	58283	710.000C	710.00000	1
✓	MF-MSMF050-2CT-ND	F1		1	MF-MSMF050-2	89824	281.000C	281.00000	1
✓	490-1054-1-ND	L1		1	BLM21PG221SN1D	832652	122.000C	122.00000	1
✓	609-3218-ND	ICSP,ICSP1		2	67996-406HLF	18733	330.000C	660.00000	1
✓	CAY16-220J4LFCT-ND	RN3		1	CAY16-220J4LF	7100	196.000C	196.00000	1
✓	CD1206-S01575CT-ND	D2,D3		2	CD1206-S01575	169120	196.000C	392.00000	1
✓	311-1344-1-ND	C1,C2,C4,C5,		6	CC0603KRX7R9BB104	4076402	122.000C	732.00000	1
✓	S7006-ND	IOL,POWER		2	PPTC081LFBN-RC	47300	1,052.00	2,104.00000	1
✓	754-1135-1-ND	L,RX,TX		3	APT2012YC	23772	477.000C	1,431.00000	1
✓	EGF1T-E3/67AGICT-ND	D1		1	EGF1T-E3/67A	1355	685.000C	685.00000	1
✓	475-1410-1-ND	ON		1	LG R971-KN-1	574912	306.000C	306.00000	1
✓	450-1760-1-ND	RESET		1	FSM1LPATR	34127	392.000C	392.00000	1
✓	CP-102AH-ND	X1		1	PJ-102AH	57754	930.000C	930.00000	1
✓	709-1143-1-ND	C9,C11		2	500R14N220JV4T	104799	122.000C	244.00000	1
✓	535-9041-ND	Y1		1	ABL-16.000MHZ-B2	0	215.361C	215.36100	100
✓	S7008-ND	IOH		1	PPTC101LFBN-RC	22322	991.000C	991.00000	1
✓	S7004-ND	AD		1	PPTC061LFBN-RC	16933	832.000C	832.00000	1
✓	296-13455-1-ND	U5		1	LMV358IDGKR	25661	942.000C	942.00000	1
✓	490-1198-1-ND	Y2		1	CSTCE16M0V53-R0	81629	612.000C	612.00000	1

Country: South Korea (KRW)

Digi-Key ELECTRONICS

Total ₩25,524.37

Digi-Key BOM

Add To Cart

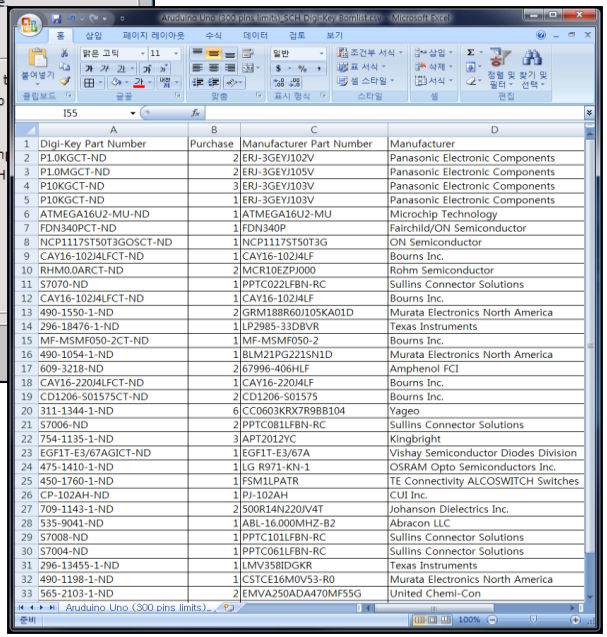
*The indicated price is for reference. Please confirm the current price/stock directly at the website.

Description

Part numbers need t
with components to

How to Register
- Register with Comp
- Register from SCH

No. of Set 1 *Please specify the number of sets you want to purchase.

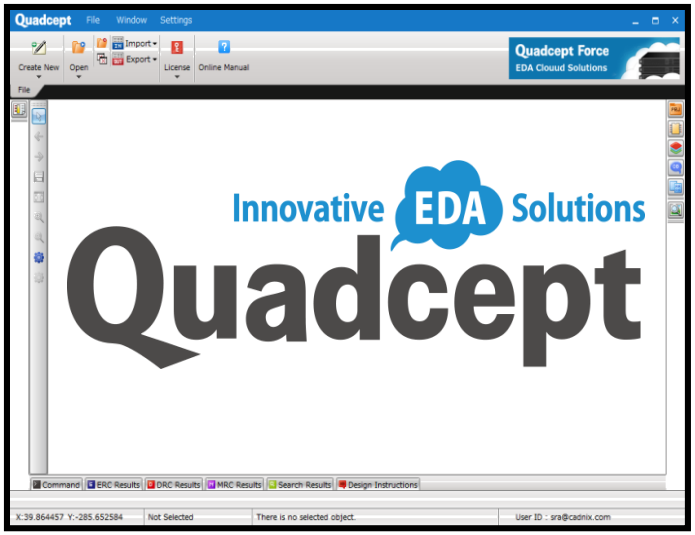


	A	B	C	D
1	Digi-Key Part Number	Purchase	Manufacturer Part Number	Manufacturer
2	P1.0KGCT-ND	2	ERJ-3GEYJ102V	Panasonic Electronic Components
3	P1.0MGCT-ND	2	ERJ-3GEYJ105V	Panasonic Electronic Components
4	P10KGCT-ND	3	ERJ-3GEYJ103V	Panasonic Electronic Components
5	P10KGCT-ND	1	ERJ-3GEYJ103V	Panasonic Electronic Components
6	ATMEGA16U2-MU-ND	1	ATMEGA16U2-MU	Microchip Technology
7	FDN340PCT-ND	1	FDN340P	Fairchild/ON Semiconductor
8	NCP1117ST50T3GOSCT-ND	1	NCP1117ST50T3G	ON Semiconductor
9	CAY16-102J4LFCT-ND	1	CAY16-102J4LF	Bourns Inc.
10	RHM0.0ARCT-ND	2	MCR10EZPJ000	Rohm Semiconductor
11	S7070-ND	1	PPTC022LFBN-RC	Sullins Connector Solutions
12	CAY16-102J4LFCT-ND	1	CAY16-102J4LF	Bourns Inc.
13	490-1550-1-ND	2	GRM188R60J105KA01D	Murata Electronics North America
14	296-18476-1-ND	1	LP2985-33DBVR	Texas Instruments
15	MF-MSMF050-2CT-ND	1	MF-MSMF050-2	Bourns Inc.
16	490-1054-1-ND	1	BLM21PG221SN1D	Murata Electronics North America
17	609-3218-ND	2	67996-406HLF	Amphenol FCI
18	CAY16-220J4LFCT-ND	1	CAY16-220J4LF	Bourns Inc.
19	CD1206-S01575CT-ND	2	CD1206-S01575	Bourns Inc.
20	311-1344-1-ND	6	CC0603KRX7R9BB104	Yageo
21	S7006-ND	2	PPTC081LFBN-RC	Sullins Connector Solutions
22	754-1135-1-ND	3	APT2012YC	Kingbright
23	EGF1T-E3/67AGICT-ND	1	EGF1T-E3/67A	Vishay Semiconductor Diodes Division
24	475-1410-1-ND	1	LG R971-KN-1	OSRAM Opto Semiconductors Inc.
25	450-1760-1-ND	1	FSM1LPATR	TE Connectivity ALCOSWITCH Switches
26	CP-102AH-ND	1	PJ-102AH	CUI Inc.
27	709-1143-1-ND	2	500R14N220JV4T	Johanson Dielectrics Inc.
28	535-9041-ND	1	ABL-16.000MHZ-B2	Abracon LLC
29	S7008-ND	1	PPTC101LFBN-RC	Sullins Connector Solutions
30	S7004-ND	1	PPTC061LFBN-RC	Sullins Connector Solutions
31	296-13455-1-ND	1	LMV358IDGKR	Texas Instruments
32	490-1198-1-ND	1	CSTCE16M0V53-R0	Murata Electronics North America
33	565-2103-1-ND	2	EMVA250ADA470MF55G	United Chemi-Con

V E R I F I C A T I O N

With PollEx

6. Verification – DFM/DFE



6. Verification – PollEx PCB