



Stack Die Stitching Application Note



This design uses 2 die with one stacked on top of the other. All Power, Ground and Signals on the second die are stitched to the Base Die. The base die has wide pads for all Powers and Grounds. Wire Bonds on the Base Die have offsets applied to them so they have different attach point. The Power and Ground pads on the base dies are also split into 2 segments allowing for double bonding. CBPs can be split into as many segments as you need for multiple bonding. The whole project has been scripted which will be described below.

The first script is the master script and it executes some commands and runs other scripts. Scripts can be nested to any depth depending on the way you organize your projects. To start the process run AsPacker and at the command prompt at the bottom of the screen type “Run=Demo1.kmd” and press enter. Commands are not case sensitive. A log file is build containing all the commands as they are executed. This log file can be edited and turned into a .kmd file for future execution.

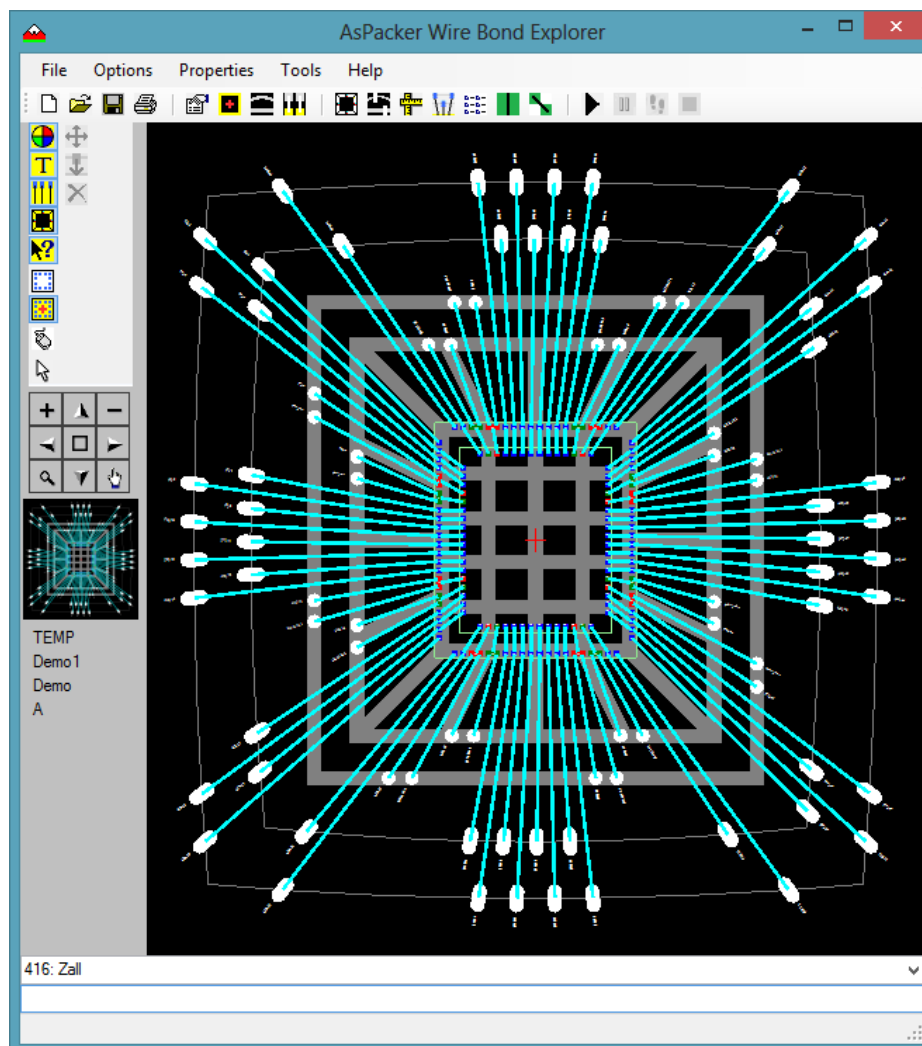


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Demo1.kmd:

New	<i>Clear the data base for a new design.</i>
LoadPinlist= Demo1.pinlist	<i>Load the Base Die Pinlist.</i>
LoadPinlist= Demo1S.pinlist	<i>Load the Stacked Die Pinlist.</i>
Run= OptionsSetup1.kmd	<i>Configures the basic setup of the tool.</i>
Run= TiersSetup1.kmd	<i>Sets up the 4 tiers used in this design. This is where the SBPs (Substrate Bond Pads) will be placed.</i>
Run= DieAttachSetup1.kmd	<i>Defines the Die Attach Pad and the connection to the inner ring which in this design is Ground.</i>
Run= Split1.kmd	<i>Splits the wide Power and Ground Pads into 2 segments for double bonding.</i>
Run= Assign1.kmd	<i>Assigns the Base Die Grounds to Tier 1, Powers to Tier 2 and the Signals to Tier 3 & 4.</i>
Run= Stitch1.kmd	<i>Add the stitching from the Stacked die to the Base die using a Stitch file. (Demo1.stch)</i>
Run= Fanout1.kmd	<i>Executes the Fanout process the pads assigned to tiers.</i>
Run= OffsetWBAttach1.kmd	<i>This applies an X offset to the double bonded pads and a Y offset to all the CBPs (Component Bond Pads) with more than one wire attached to them.</i>
SaveProject=Demo1.prj	<i>Saves the project to the current Work Directory. This is where all the scripts and files exist.</i>

OptionsSetup1.kmd:

FillPads=True

Fills the CBPs with color. Red for Power, Green for Ground, and Blue for Signal.

PadText=True

Display CBP and SBP pad text.

Wires=True

Display Bond Wires.

DieAttach=True

Display the Die Attach Pad and Ring connections.

ToolTips=True

Display Tooltips for controls.

DieOnly=False

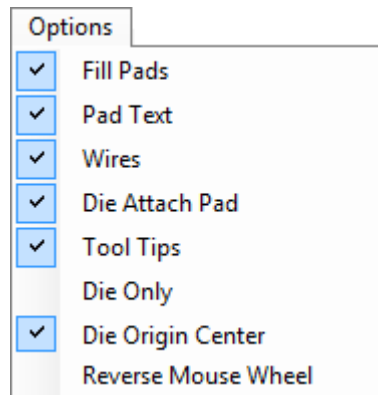
Display all features.

DieOrigin=Center
coordinates.

Make the Base Die Center the origin of

MouseWheel=False

Sets the mouse wheel zoom to the default state.



TiersSetup1.kmd:

TierProperties



Open the Tiers Property dialog box.

TierTab=1

Select Tier 1 tab.

TierActive=1 True

Make the tier Active.

TierDistance=1 500.000

Set the distance of the tier from the Base Die Edge to 500 microns.

TierStyle=1 Ring

Make the tier a Ring (Copper) or Guide only.

TierShape=1 Flat

Set the Shape of the Tier to Flat or Arc.

TierBulge=1 100.000

Set the bulge or Arc height in microns.

TierType=1 Ground

Assign the Signal type (Power / Ground / Signal).

SBPOrient=1 Angle

Set the orientation of the SBPs (Angle / Ortho).

SBPEndCap=1 Round

Set the end cap style for SBPs (Round / Flat).

SBPWidth=1 100.000

Set the Width of the SBPs in microns.

SBPHeight=1 100.000

Set the Height of the SBPs in microns.

WW=1 25.400

Set the Wire Width in Microns.

W2W=1 50.000

Set the Wire-to-Wire DRC rule in microns.

W2P=1 50.000

Set the Wire-to-Pad DRC rule in microns.

P2P=1 40.000

Set the Pad-to-Pad DRC rule in Microns.

MaxWireLength=1 6350.000

Set the Max Wire Length for post process DRC.

MaxWireAngle=1 45.000

Set the Max Wire Angle for post process DRC.

TierApply

Apply the settings to the Tier.

TierTab=2

Select Tier 2 and set the parameters (see Tier 1).

TierActive=2 True

TierDistance=2 800.000

TierStyle=2 Ring

TierShape=2 Flat

TierBulge=2 100.000

TierType=2 Power

SBPOrient=2 Angle

SBPEndCap=2 Round

SBPWidth=2 100.000

SBPHeight=2 100.000

WW=2 25.400

W2W=2 50.000

W2P=2 50.000
P2P=2 40.000
MaxWireLength=2 6350.000
MaxWireAngle=2 45.000
TierApply

TierTab=3
TierActive=3 True
TierDistance=3 1100.000
TierStyle=3 Guide
TierShape=3 Arc
TierBulge=3 100.000
TierType=3 Signal
SBPOrient=3 Angle
SBPEndCap=3 Round
SBPWidth=3 100.000
SBPHeight=3 200.000
WW=3 25.400
W2W=3 50.000
W2P=3 50.000
P2P=3 100.000
MaxWireLength=3 6350.000
MaxWireAngle=3 45.000
TierApply

Select Tier 3 and set the parameters (see Tier 1).

TierTab=4
TierActive=4 True
TierDistance=4 1500.000
TierStyle=4 Guide
TierShape=4 Arc
TierBulge=4 100.000
TierType=4 Signal
SBPOrient=4 Angle
SBPEndCap=4 Round
SBPWidth=4 100.000
SBPHeight=4 200.000
WW=4 25.400
W2W=4 50.000
W2P=4 50.000
P2P=4 100.000
MaxWireLength=4 6350.000
MaxWireAngle=4 45.000

Select Tier 4 and set the parameters (see Tier 1).

TierOK

Apply Settings and close the dialog box.

Tier 1 Setup:

The Tiers dialog box for Tier 1 Setup shows the following configuration:

- Tier1** tab is selected.
- ☒ Active - Distance from Die Edge = 500.000
- Style: ☐ Guide ☒ Ring
- Shape: ☒ Flat ☐ Arc - Bulge = 100.000
- Type: ☐ Power ☒ Ground ☐ Signal
- Pad:
 - Orientation: ☐ Ortho ☒ Angle
 - End Cap: ☐ Flat ☒ Round
 - Width = 100.000 Height = 100.000
- DRC:
 - Wire Width = 25.400 u Wire to Wire = 50.000
 - Wire to Pad = 50.000 Pad to Pad = 40.000
 - Max Length = 6350.000 Max Angle = 45.000
- Buttons: Mils <> Microns, Apply, OK, Cancel

Tier 2 Setup:

The Tiers dialog box for Tier 2 Setup shows the following configuration:

- Tier2** tab is selected.
- ☒ Active - Distance from Die Edge = 800.000
- Style: ☐ Guide ☒ Ring
- Shape: ☒ Flat ☐ Arc - Bulge = 100.000
- Type: ☒ Power ☐ Ground ☐ Signal
- Pad:
 - Orientation: ☐ Ortho ☒ Angle
 - End Cap: ☐ Flat ☒ Round
 - Width = 100.000 Height = 100.000
- DRC:
 - Wire Width = 25.400 u Wire to Wire = 50.000
 - Wire to Pad = 50.000 Pad to Pad = 40.000
 - Max Length = 6350.000 Max Angle = 45.000
- Buttons: Mils <> Microns, Apply, OK, Cancel

Tier 3 Setup:

The Tiers dialog box for Tier 3 Setup shows the following configuration:


- Tier3** tab is selected.
- ☒ Active - Distance from Die Edge = 1100.000
- Style: ☒ Guide ☐ Ring
- Shape: ☐ Flat ☒ Arc - Bulge = 100.000
- Type: ☐ Power ☐ Ground ☒ Signal
- Pad:
 - Orientation: ☐ Ortho ☒ Angle
 - End Cap: ☐ Flat ☒ Round
 - Width = 100.000 Height = 200.000
- DRC:
 - Wire Width = 25.400 u Wire to Wire = 50.000
 - Wire to Pad = 50.000 Pad to Pad = 100.000
 - Max Length = 6350.000 Max Angle = 45.000
- Buttons: Mils <> Microns, Apply, OK, Cancel

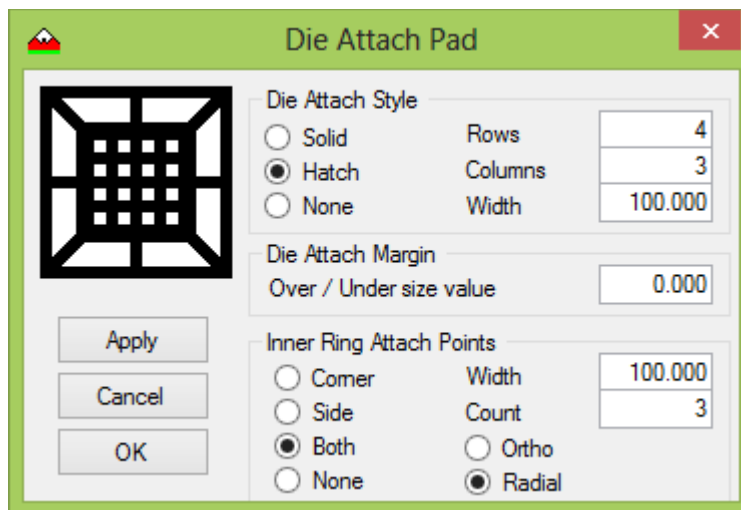
Tier 4 Setup:

The Tiers dialog box for Tier 4 Setup shows the following configuration:


- Tier4** tab is selected.
- ☒ Active - Distance from Die Edge = 1500.000
- Style: ☒ Guide ☐ Ring
- Shape: ☐ Flat ☒ Arc - Bulge = 100.000
- Type: ☐ Power ☐ Ground ☒ Signal
- Pad:
 - Orientation: ☐ Ortho ☒ Angle
 - End Cap: ☐ Flat ☒ Round
 - Width = 100.000 Height = 200.000
- DRC:
 - Wire Width = 25.400 u Wire to Wire = 50.000
 - Wire to Pad = 50.000 Pad to Pad = 100.000
 - Max Length = 6350.000 Max Angle = 45.000
- Buttons: Mils <> Microns, Apply, OK, Cancel

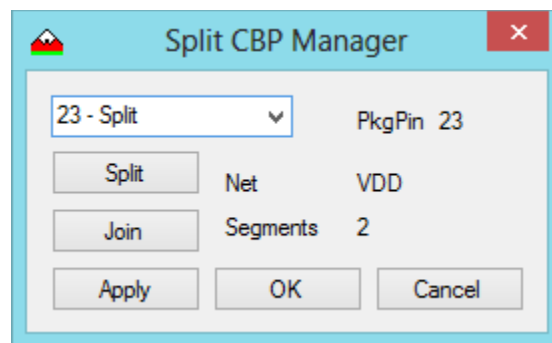
DieAttachSetup1.kmd:

AttachTool		Open the Die Attach Pad dialog box.
AttachStyle=Hatch		Set the Attach Pad style (Hatch / Solid / None).
AttachHatchRows=4		Set the number of Hatched rows.
AttachHatchColumns=3		Set the number of Hatched Columns.
AttachHatchWidth=100.000		Set the line width for the Hatch.
AttachMargin=0.000		Set the over / under size of the Die Attach Pad based on the size of the Base Die.
AttachPoint=Both		Set the method of attaching the Die Attach Pad to the inner most Ring (Edge / Corner / Both / None).
AttachPointWidth=100.000		Set the line width for the ring attachments.
AttachPointCount=3		Set the number of edge attachments for each side.
AttachPointStyle=Radial		Sets the style of attachment (Radial or Orthogonal).
AttachOK		Apply the settings and close the dialog box.



Split1.kmd :

SplitTool		Open the CBP Split Manager dialog box.
SplitCBP=5		Split the CBP into 2 segments.
SplitCBP=6		Split the CBP into 2 segments.
SplitCBP=15		Split the CBP into 2 segments.
SplitCBP=16		Split the CBP into 2 segments.
SplitCBP=23		Split the CBP into 2 segments.
SplitCBP=24		Split the CBP into 2 segments.
SplitCBP=33		Split the CBP into 2 segments.
SplitCBP=34		Split the CBP into 2 segments.
SplitCBP=41		Split the CBP into 2 segments.
SplitCBP=42		Split the CBP into 2 segments.
SplitCBP=51		Split the CBP into 2 segments.
SplitCBP=52		Split the CBP into 2 segments.
SplitCBP=59		Split the CBP into 2 segments.
SplitCBP=60		Split the CBP into 2 segments.
SplitCBP=69		Split the CBP into 2 segments.
SplitCBP=70		Split the CBP into 2 segments.
SplitOK		Apply the splits and close the dialog box.



Assign1.kmd:

AssignTool 

Open the Tier Assignment dialog box.

AssignReset

Clear previous assignments if they exist.

AssignBy=Net

Select pads by Net name.

AssignToTier=1 Net VSS U1

Assign pads type VSS of U1 to Tier 1.

AssignToTier=2 Net VDD U1

Assign pads type VDD of U1 to Tier 2.

AssignSelectAll

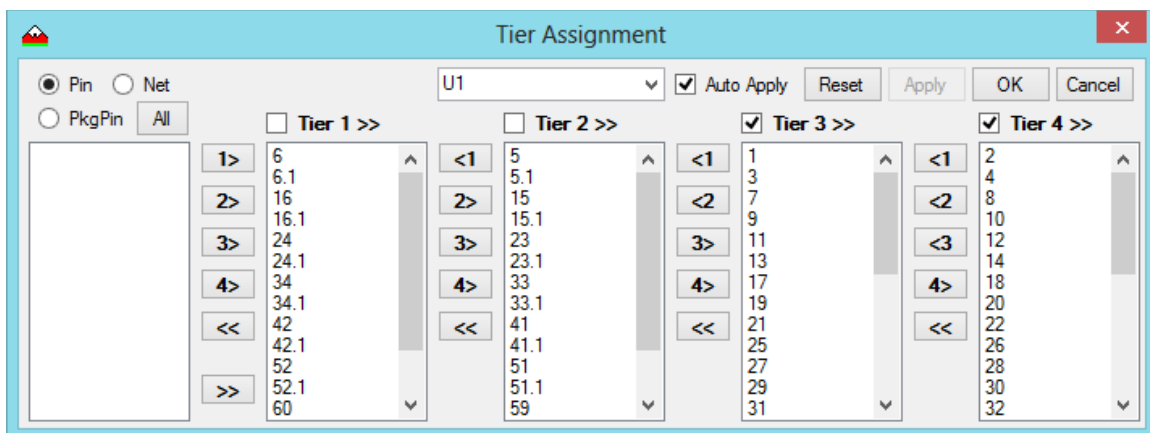
Select the remainder of the pads not assigned and split them between tier 3 and 4.

AssignToTier=3 Pin 1 3 7 9 11 13 17 19 21 25 27 29 31 35 37 39 43 45 47 49 53 55 57 61 63 65 67 71

AssignToTier=4 Pin 2 4 8 10 12 14 18 20 22 26 28 30 32 36 38 40 44 46 48 50 54 56 58 62 64 66 68 72

AssignOK

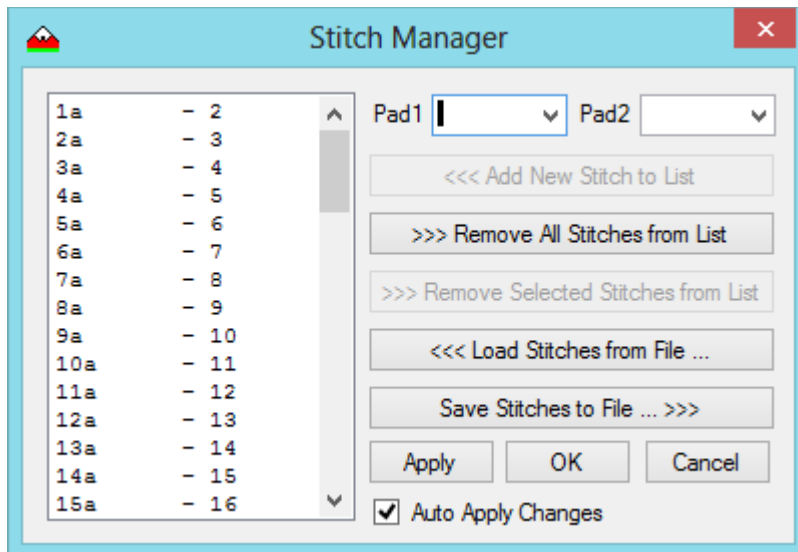
Apply the assignments and close the dialog box.



Stitch1.kmd:

StitchTool 
LoadStitch=Demo1.stch
StitchOK

Open the Stitch Manager dialog box.
Load the Demo1.stch file.
Apply the stitches and close the dialog box.




Demo1.stch:

*PAD1	PAD2	P1offsetX	P1offsetY	P2offsetX	P2offsetY
1a	2	0.000	0.000	0.000	-8.00
2a	3	0.000	0.000	0.000	-8.00
3a	4	0.000	0.000	0.000	-8.00
4a	5	0.000	0.000	0.000	-8.00
5a	6	0.000	0.000	0.000	-8.00
6a	7	0.000	0.000	0.000	-8.00
7a	8	0.000	0.000	0.000	-8.00
8a	9	0.000	0.000	0.000	-8.00
9a	10	0.000	0.000	0.000	-8.00
10a	11	0.000	0.000	0.000	-8.00
11a	12	0.000	0.000	0.000	-8.00
12a	13	0.000	0.000	0.000	-8.00
13a	14	0.000	0.000	0.000	-8.00
14a	15	0.000	0.000	0.000	-8.00
15a	16	0.000	0.000	0.000	-8.00
16a	17	0.000	0.000	0.000	-8.00
17a	18	0.000	0.000	0.000	-8.00
18a	19	0.000	0.000	0.000	-8.00
19a	22	0.000	0.000	0.000	-8.00
20a	23	0.000	0.000	0.000	-8.00
21a	24	0.000	0.000	0.000	-8.00
22a	25	0.000	0.000	0.000	-8.00
23a	26	0.000	0.000	0.000	-8.00
24a	27	0.000	0.000	0.000	-8.00
25a	28	0.000	0.000	0.000	-8.00
26a	29	0.000	0.000	0.000	-8.00
27a	30	0.000	0.000	0.000	-8.00
28a	31	0.000	0.000	0.000	-8.00

29a	32	0.000	0.000	0.000	-8.00
30a	33	0.000	0.000	0.000	-8.00
31a	34	0.000	0.000	0.000	-8.00
32a	35	0.000	0.000	0.000	-8.00
33a	38	0.000	0.000	0.000	-8.00
34a	39	0.000	0.000	0.000	-8.00
35a	40	0.000	0.000	0.000	-8.00
36a	41	0.000	0.000	0.000	-8.00
37a	42	0.000	0.000	0.000	-8.00
38a	43	0.000	0.000	0.000	-8.00
39a	44	0.000	0.000	0.000	-8.00
40a	45	0.000	0.000	0.000	-8.00
41a	46	0.000	0.000	0.000	-8.00
42a	47	0.000	0.000	0.000	-8.00
43a	48	0.000	0.000	0.000	-8.00
44a	49	0.000	0.000	0.000	-8.00
45a	50	0.000	0.000	0.000	-8.00
46a	51	0.000	0.000	0.000	-8.00
47a	52	0.000	0.000	0.000	-8.00
48a	53	0.000	0.000	0.000	-8.00
49a	54	0.000	0.000	0.000	-8.00
50a	55	0.000	0.000	0.000	-8.00
51a	58	0.000	0.000	0.000	-8.00
52a	59	0.000	0.000	0.000	-8.00
53a	60	0.000	0.000	0.000	-8.00
54a	61	0.000	0.000	0.000	-8.00
55a	62	0.000	0.000	0.000	-8.00
56a	63	0.000	0.000	0.000	-8.00
57a	64	0.000	0.000	0.000	-8.00
58a	65	0.000	0.000	0.000	-8.00
59a	66	0.000	0.000	0.000	-8.00
60a	67	0.000	0.000	0.000	-8.00
61a	68	0.000	0.000	0.000	-8.00
62a	69	0.000	0.000	0.000	-8.00
63a	70	0.000	0.000	0.000	-8.00
64a	71	0.000	0.000	0.000	-8.00

Fanout1.kmd:

FanoutTool 

Open the Fanout dialog box.

FanoutClearBefore=True

Clear previous Fanout if one exists.

FanoutCenterGroups=True

Center Groups on each edge.

FanoutKeepGroups=True

Keep existing Group assignments.

FanoutPushPull=True

Allow Push / Pull SBP placement for a tighter fanout pattern.

FanoutLeft=True

Fanout the Left Edge.

FanoutBottom=True

Fanout the Bottom Edge.

FanoutRight=True

Fanout the Right Edge.

FanoutTop=True

Fanout the Top Edge.

Fanout=All

Fanout all SBPs.

FanoutKeepOrder=True

Keep pin order (best with split pads) (if stacked die are also involved in the fanout process this should be set to false).

FanoutKeepEdges=True

Keep Edge assignments.

FanoutEffort=10

Run with maximum effort for best pattern.

FanoutOverRun=15

Allow a 15% Tier width overrun.

FanoutPrecision=3

Set the precision to 3 decimal places.

FanoutUntangle=False

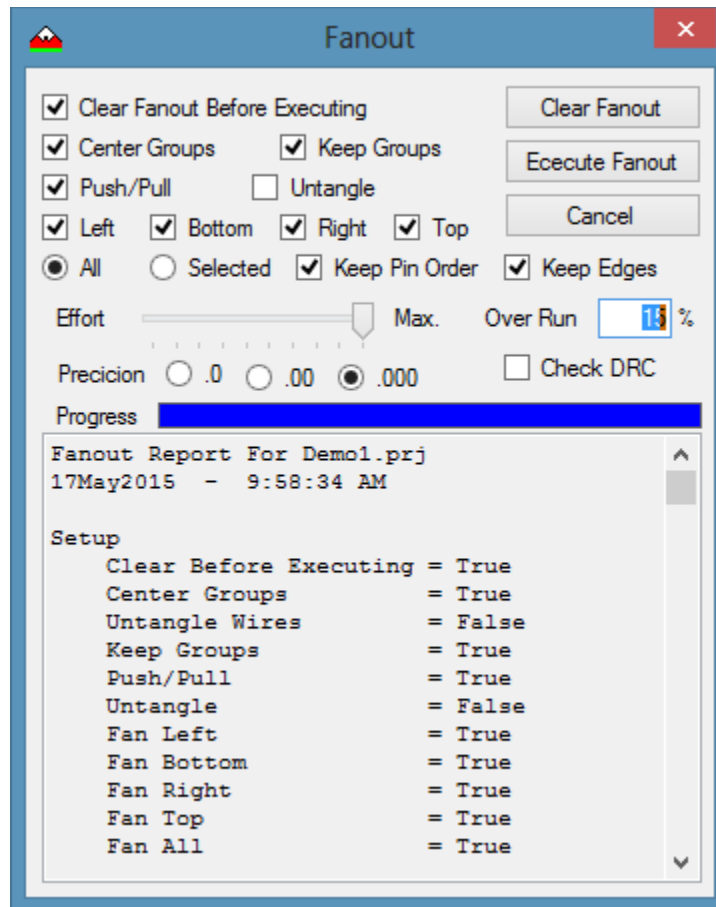
No untangle is needed (used when fanning out with stacked die when wires may cross).

FanoutExecute

Execute the Fanout Process.


FanoutCancel

Close the Fanout dialog box.




The fanout process in this case took 0.186 seconds to complete.

OffsetWBAttach1.kmd:

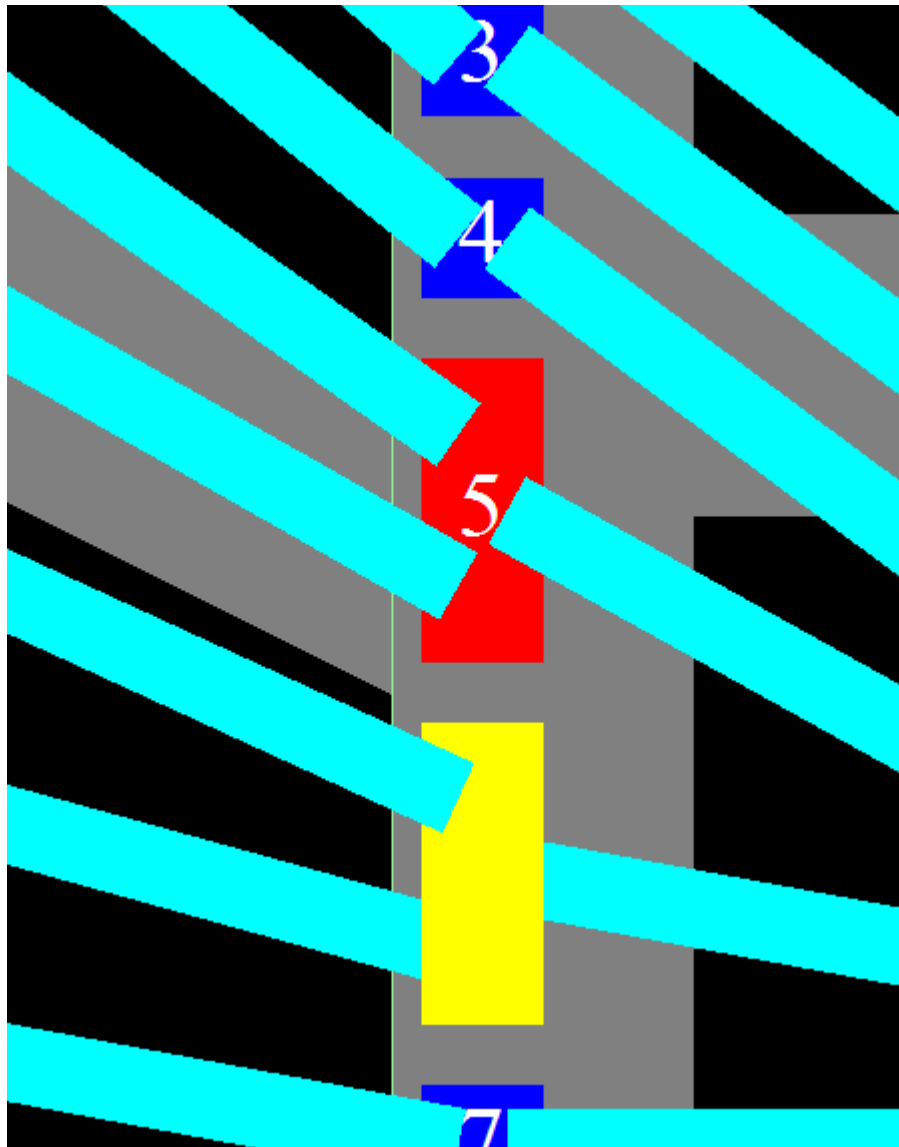
PadProperties		Open the Pad Properties dialog box.
SelectWire=5 6 15 16 23 24 33 34 41 42 51 52 59 60 69 70		
WireCBPx=25.000		Set the CBPx attach point offset to 25 microns.
PadPropertiesApply		Apply the offsets (First split segments).
Cancel		Clear the selected list.
SelectWire=5.1 6.1 15.1 16.1 23.1 24.1 33.1 34.1 41.1 42.1 51.1 52.1 59.1 60.1 69.1 70.1		
WireCBPx=-25.000		Set the CBPx attach point offset to -25 microns.
PadPropertiesApply		Apply the offsets (Second split segments).
Cancel		Clear the selected list.
SelectWire=2 3 4 5 5.1 6 6.1 7 8 9 10 11 12 13 14 15 15.1 16 16.1 17 18 19		
WireCBPy=8.000		Set the CBPy attach point offset to 8 microns.
PadPropertiesApply		Apply the offsets (Left edge multi-attach points).
Cancel		Clear the selected list.
SelectWire=22 23 23.1 24 24.1 25 26 27 28 29 30 31 32 33 33.1 34 34.1 35		
WireCBPy=8.000		Set the CBPy attach point offset to 8 microns.
PadPropertiesApply		Apply the offsets (Bottom edge multi-attach points).
Cancel		Clear the selected list.
SelectWire=38 39 40 41 41.1 42 42.1 43 44 45 46 47 48 49 50 51 51.1 52 52.1 53 54 55		
WireCBPy=8.000		Set the CBPy attach point offset to 8 microns.
PadPropertiesApply		Apply the offsets (Right edge multi-attach points).
SelectWire=58 59 59.1 60 60.1 61 62 63 64 65 66 67 68 69 69.1 70 70.1 71		
WireCBPy=8.000		Set the CBPy attach point offset to 8 microns.
PadPropertiesApply		Apply the offsets (Top edge multi-attach points).
Cancel		Clear the selected list.
PadPropertiesCancel		Close the Pad Properties dialog box.

In this example, I set the Y offsets by edge but you could have also selected all the pads and executes the offsets at one time instead of 4 times. The offsets for the stitches were set in the Demo1.stch file so no need to do it again here. This is only for the wires that were processed during the fanout process.

CBP, SBP and Wire Properties

CBP		SBP		Wire		SBP
Pad	6	PkgPin	6	CBPoffX	25.000	
Type	Ground	Tier	1	CBPoffY	8.000	
X	-680.000	X	-1260.000	SBPoffX	0.000	
Y	300.000	Y	587.551	SBPoffY	0.000	
Height	100.000	Height	100.000	Length	666.464	
Width	40.000	Width	100.000	Width	25.400 u	
Edge	Left	Edge	Left	Angle	26.371	
Die	U1	Rotation	26.371			CBP
Net	VSS					

Apply OK Cancel



3Dview.kmd:

3DWBSU



Open the Wire Bond Setup dialog box.

3DDefaultTo=1/4

Set the Default Bond Wire values to $\frac{1}{4}$ die height.

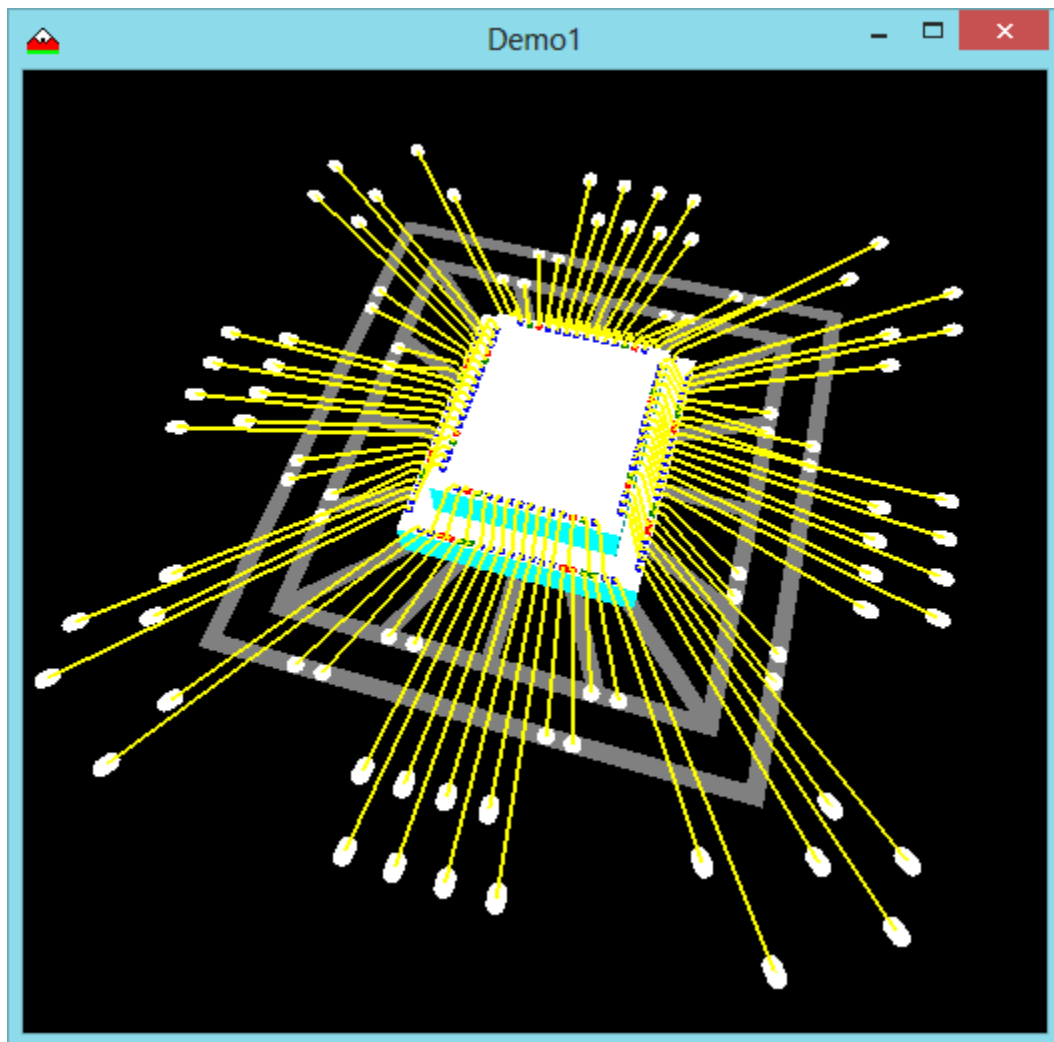
3DOK

Save the values to the database and close the Wire Bond Setup dialog box.

3Dview



Open the 3D Viewer.



Demo1.pinlist:

File Path: WorkPath\Demo1.pinlist
Created: 6/22/2014 7:01:35 AM

Component U1
Part ABC

Die Width 1420.000
Die Height 1660.000
Die Thickness 250.000

Origin Center

Back Bias ??

Pin	Height	Width	X	Y	PkgPin	Type	Net
*Left							
1	40.000	40.000	-680.000	690.000	1	??	NET1
2	40.000	40.000	-680.000	630.000	2	??	NET2
3	40.000	40.000	-680.000	570.000	3	??	NET3
4	40.000	40.000	-680.000	510.000	4	??	NET4
5	100.000	40.000	-680.000	420.000	5	Power	VDD
6	100.000	40.000	-680.000	300.000	6	Ground	VSS
7	40.000	40.000	-680.000	210.000	7	??	NET7
8	40.000	40.000	-680.000	150.000	8	??	NET8
9	40.000	40.000	-680.000	90.000	9	??	NET9
10	40.000	40.000	-680.000	30.000	10	??	Net10
11	40.000	40.000	-680.000	-30.000	11	??	NET11
12	40.000	40.000	-680.000	-90.000	12	??	NET12
13	40.000	40.000	-680.000	-150.000	13	??	NET13
14	40.000	40.000	-680.000	-210.000	14	??	NET14
15	100.000	40.000	-680.000	-300.000	15	Power	VDD
16	100.000	40.000	-680.000	-420.000	16	Ground	VSS
17	40.000	40.000	-680.000	-510.000	17	??	NET17
18	40.000	40.000	-680.000	-570.000	18	??	NET18
19	40.000	40.000	-680.000	-630.000	19	??	NET19
20	40.000	40.000	-680.000	-690.000	20	??	NET20
*Bottom							
21	40.000	40.000	-570.000	-800.000	21	??	NET21
22	40.000	40.000	-510.000	-800.000	22	??	NET22
23	40.000	100.000	-420.000	-800.000	23	Power	VDD
24	40.000	100.000	-300.000	-800.000	24	Ground	VSS
25	40.000	40.000	-210.000	-800.000	25	??	NET25
26	40.000	40.000	-150.000	-800.000	26	??	NET26
27	40.000	40.000	-90.000	-800.000	27	??	NET27
28	40.000	40.000	-30.000	-800.000	28	??	NET28
29	40.000	40.000	30.000	-800.000	29	??	NET29
30	40.000	40.000	90.000	-800.000	30	??	NET30
31	40.000	40.000	150.000	-800.000	31	??	NET31
32	40.000	40.000	210.000	-800.000	32	??	NET32
33	40.000	100.000	300.000	-800.000	33	Power	VDD
34	40.000	100.000	420.000	-800.000	34	Ground	VSS
35	40.000	40.000	510.000	-800.000	35	??	NET35
36	40.000	40.000	570.000	-800.000	36	??	NET36
*Right							
37	40.000	40.000	680.000	-690.000	37	??	NET37
38	40.000	40.000	680.000	-630.000	38	??	NET38
39	40.000	40.000	680.000	-570.000	39	??	NET39
40	40.000	40.000	680.000	-510.000	40	??	NET40
41	100.000	40.000	680.000	-420.000	41	Power	VDD
42	100.000	40.000	680.000	-300.000	42	Ground	VSS
43	40.000	40.000	680.000	-210.000	43	??	NET43
44	40.000	40.000	680.000	-150.000	44	??	NET44
45	40.000	40.000	680.000	-90.000	45	??	NET45
46	40.000	40.000	680.000	-30.000	46	??	NET46

47	40.000	40.000	680.000	30.000	47	??	NET47
48	40.000	40.000	680.000	90.000	48	??	NET48
49	40.000	40.000	680.000	150.000	49	??	NET49
50	40.000	40.000	680.000	210.000	50	??	NET50
51	100.000	40.000	680.000	300.000	51	Power	VDD
52	100.000	40.000	680.000	420.000	52	Ground	VSS
53	40.000	40.000	680.000	510.000	53	??	NET53
54	40.000	40.000	680.000	570.000	54	??	NET54
55	40.000	40.000	680.000	630.000	55	??	NET55
56	40.000	40.000	680.000	690.000	56	??	NET56
*Top							
57	40.000	40.000	570.000	800.000	57	??	NET57
58	40.000	40.000	510.000	800.000	58	??	NET58
59	40.000	100.000	420.000	800.000	59	Power	VDD
60	40.000	100.000	300.000	800.000	60	Ground	VSS
61	40.000	40.000	210.000	800.000	61	??	NET61
62	40.000	40.000	150.000	800.000	62	??	NET62
63	40.000	40.000	90.000	800.000	63	??	NET63
64	40.000	40.000	30.000	800.000	64	??	NET64
65	40.000	40.000	-30.000	800.000	65	??	NET65
66	40.000	40.000	-90.000	800.000	66	??	NET66
67	40.000	40.000	-150.000	800.000	67	??	NET67
68	40.000	40.000	-210.000	800.000	68	??	Net68
69	40.000	100.000	-300.000	800.000	69	Power	VDD
70	40.000	100.000	-420.000	800.000	70	Ground	VSS
71	40.000	40.000	-510.000	800.000	71	??	NET71
72	40.000	40.000	-570.000	800.000	72	??	NET72

Demo1S.pinlist:

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Component U2
Part AAAC

Die Width 1080.000
Die Height 1300.000
Die Thickness 250.000

Origin Center

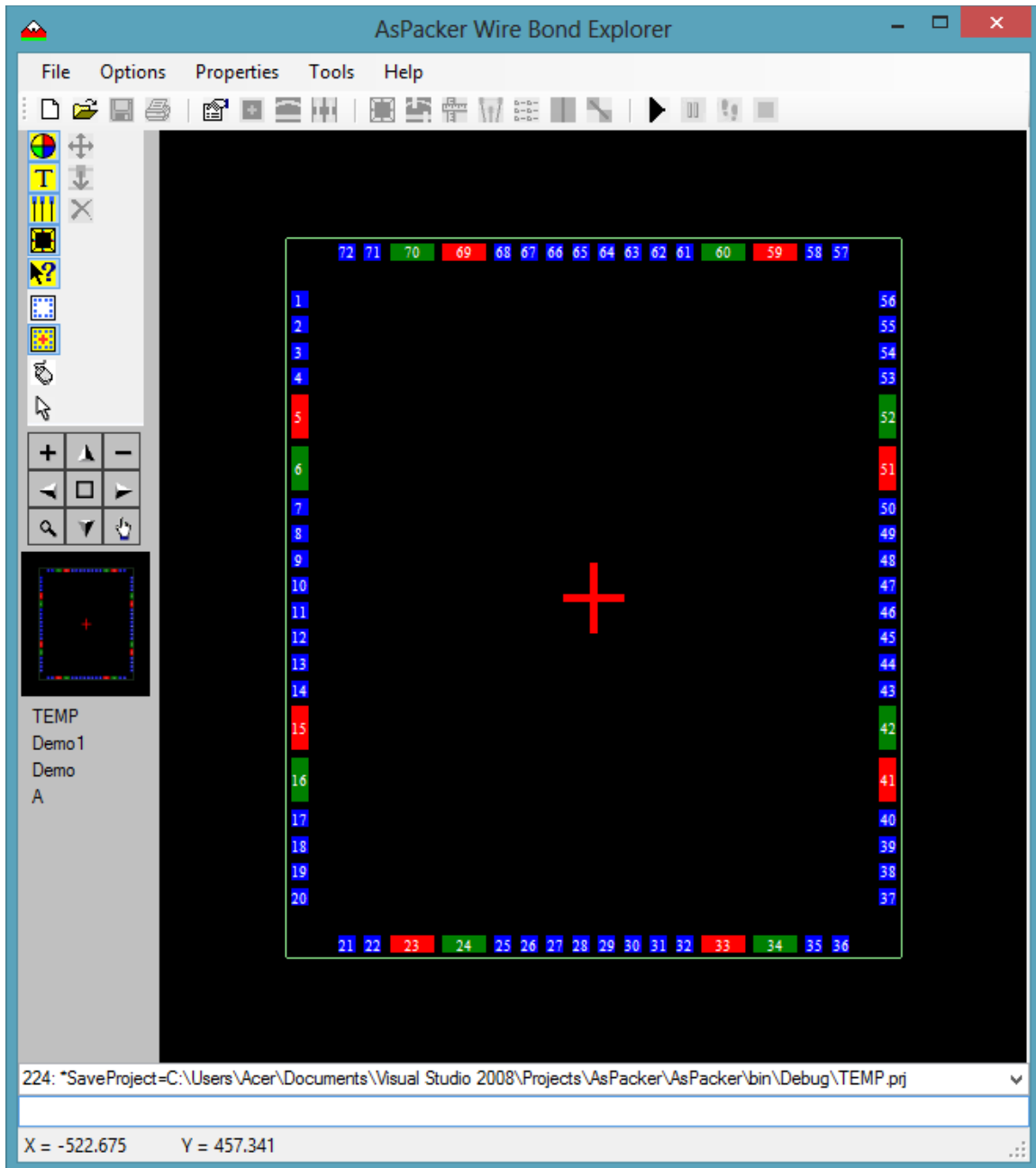
Back Bias ??

Pin	Height	Width	X	Y	PkgPin	Type	Net
*Left							
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2	40.000	40.000	-510.000	450.000	2	??	NET2
3	40.000	40.000	-510.000	390.000	3	??	NET3
4	40.000	40.000	-510.000	330.000	4	Power	VDD
5	40.000	40.000	-510.000	270.000	5	Ground	VSS
6	40.000	40.000	-510.000	210.000	6	??	NET6
7	40.000	40.000	-510.000	150.000	7	??	NET7
8	40.000	40.000	-510.000	90.000	8	??	NET8
9	40.000	40.000	-510.000	30.000	9	??	NET9
10	40.000	40.000	-510.000	-30.000	10	??	NET10
11	40.000	40.000	-510.000	-90.000	11	??	NET11
12	40.000	40.000	-510.000	-150.000	12	??	NET12
13	40.000	40.000	-510.000	-210.000	13	??	NET13
14	40.000	40.000	-510.000	-270.000	14	Power	VDD
15	40.000	40.000	-510.000	-330.000	15	Ground	VSS
16	40.000	40.000	-510.000	-390.000	16	??	NET16
17	40.000	40.000	-510.000	-450.000	17	??	NET17
18	40.000	40.000	-510.000	-510.000	18	??	NET18
*Bottom							
19	40.000	40.000	-390.000	-610.000	19	??	NET19
20	40.000	40.000	-330.000	-610.000	20	Power	VDD
21	40.000	40.000	-270.000	-610.000	21	Ground	VSS
22	40.000	40.000	-210.000	-610.000	22	??	NET22
23	40.000	40.000	-150.000	-610.000	23	??	NET23
24	40.000	40.000	-90.000	-610.000	24	??	NET24
25	40.000	40.000	-30.000	-610.000	25	??	NET25
26	40.000	40.000	30.000	-610.000	26	??	NET26
27	40.000	40.000	90.000	-610.000	27	??	NET27
28	40.000	40.000	150.000	-610.000	28	??	NET28
29	40.000	40.000	210.000	-610.000	29	??	NET29
30	40.000	40.000	270.000	-610.000	30	Power	VDD
31	40.000	40.000	330.000	-610.000	31	Ground	VSS
32	40.000	40.000	390.000	-610.000	32	??	NET32
*Right							
33	40.000	40.000	510.000	-510.000	33	??	NET33
34	40.000	40.000	510.000	-450.000	34	??	NET34
35	40.000	40.000	510.000	-390.000	35	??	NET35
36	40.000	40.000	510.000	-330.000	36	Power	VDD
37	40.000	40.000	510.000	-270.000	37	Ground	VSS
38	40.000	40.000	510.000	-210.000	38	??	NET38
39	40.000	40.000	510.000	-150.000	39	??	NET39
40	40.000	40.000	510.000	-90.000	40	??	NET40
41	40.000	40.000	510.000	-30.000	41	??	NET41
42	40.000	40.000	510.000	30.000	42	??	NET42
43	40.000	40.000	510.000	90.000	43	??	NET43
44	40.000	40.000	510.000	150.000	44	??	NET44
45	40.000	40.000	510.000	210.000	45	??	NET45
46	40.000	40.000	510.000	270.000	46	Power	VDD
47	40.000	40.000	510.000	330.000	47	Ground	VSS
48	40.000	40.000	510.000	390.000	48	??	NET48

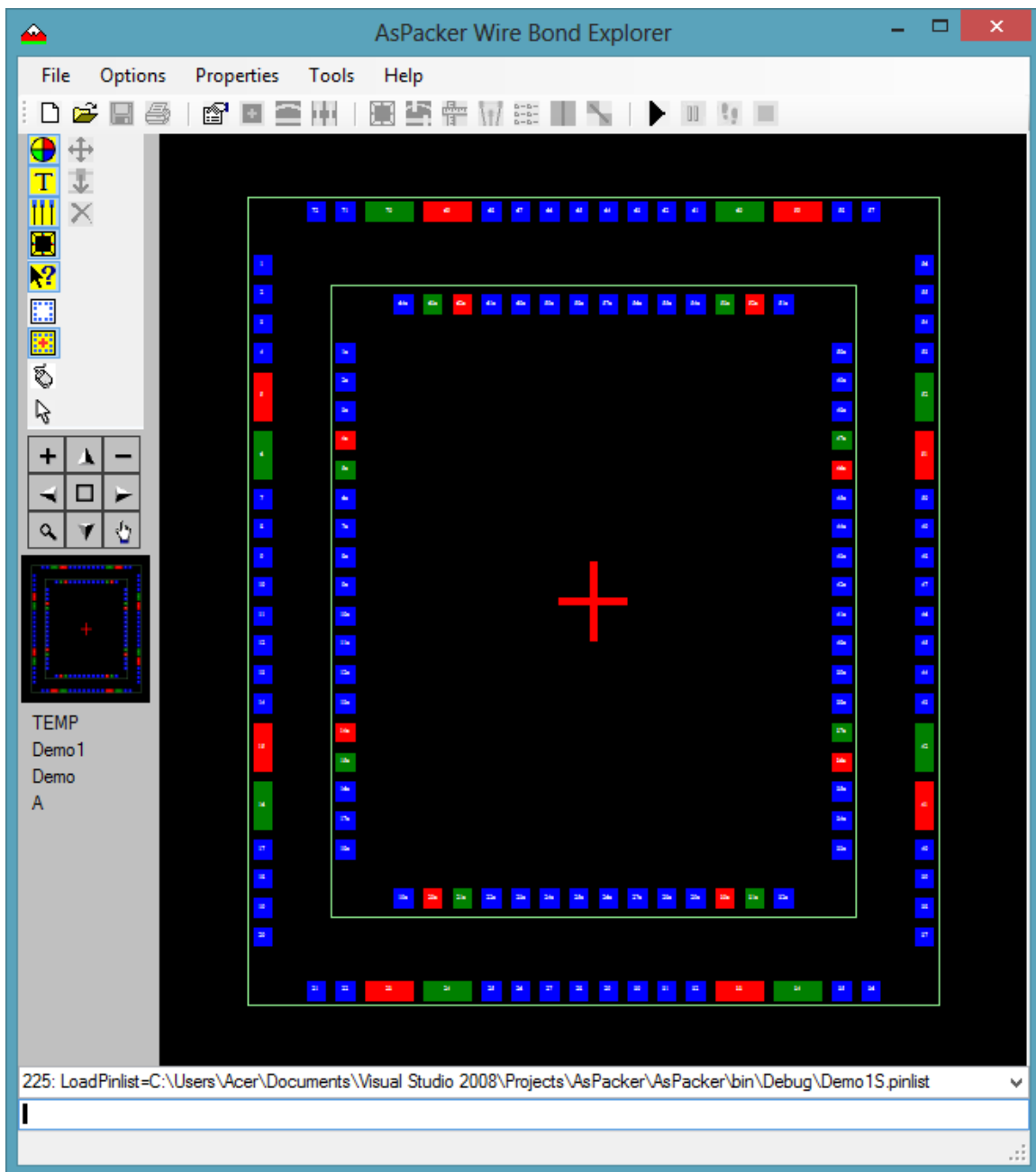
49	40.000	40.000	510.000	450.000	49	??	NET49
50	40.000	40.000	510.000	510.000	50	??	NET50
*Top							
51	40.000	40.000	390.000	610.000	51	??	NET51
52	40.000	40.000	330.000	610.000	52	Power	VDD
53	40.000	40.000	270.000	610.000	53	Ground	VSS
54	40.000	40.000	210.000	610.000	54	??	NET54
55	40.000	40.000	150.000	610.000	55	??	NET55
56	40.000	40.000	90.000	610.000	56	??	NET56
57	40.000	40.000	30.000	610.000	57	??	NET57
58	40.000	40.000	-30.000	610.000	58	??	NET58
59	40.000	40.000	-90.000	610.000	59	??	NET59
60	40.000	40.000	-150.000	610.000	60	??	NET60
61	40.000	40.000	-210.000	610.000	61	??	NET61
62	40.000	40.000	-270.000	610.000	62	Power	VDD
63	40.000	40.000	-330.000	610.000	63	Ground	VSS
64	40.000	40.000	-390.000	610.000	64	??	NET64

Screen Shots:

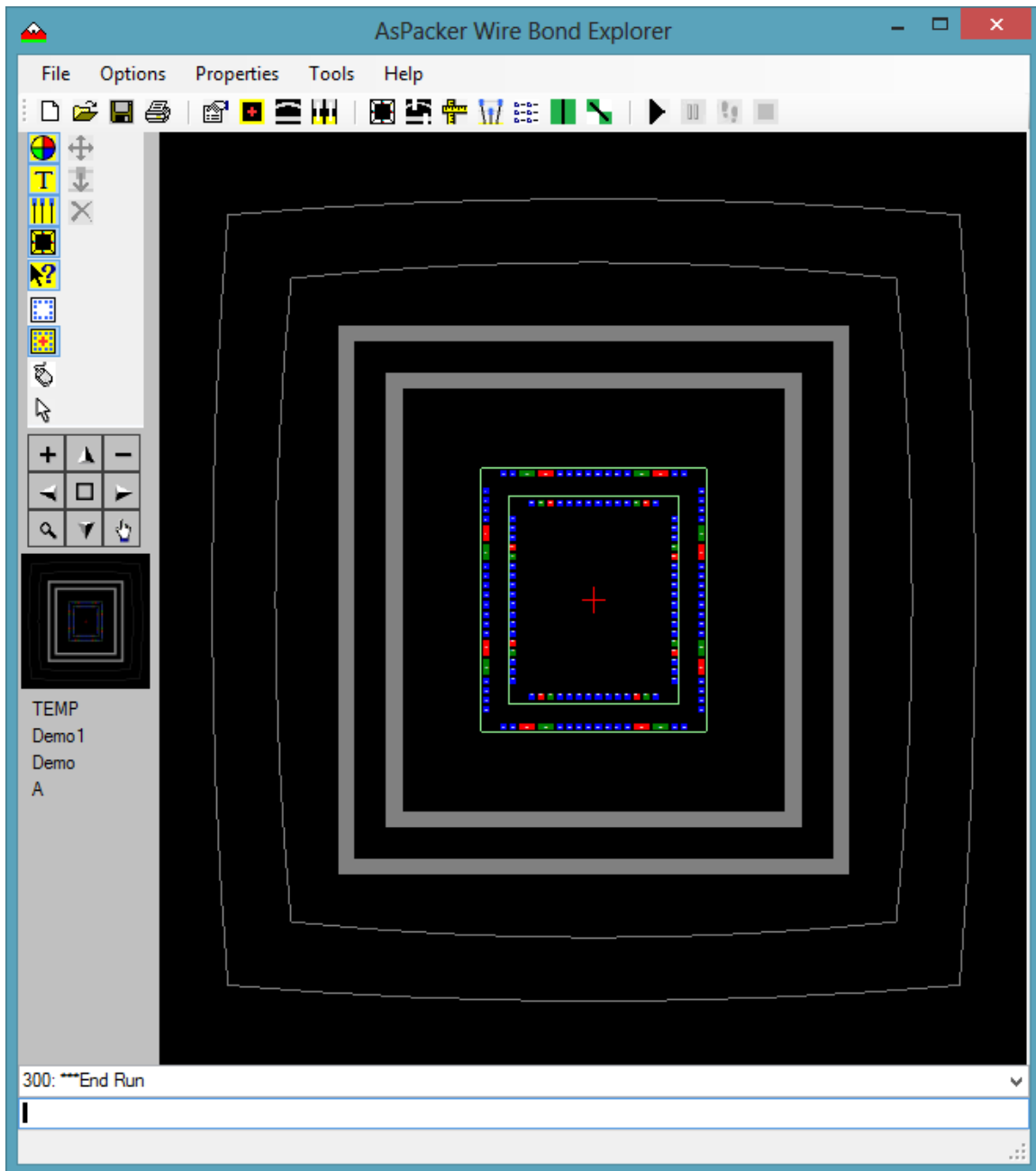
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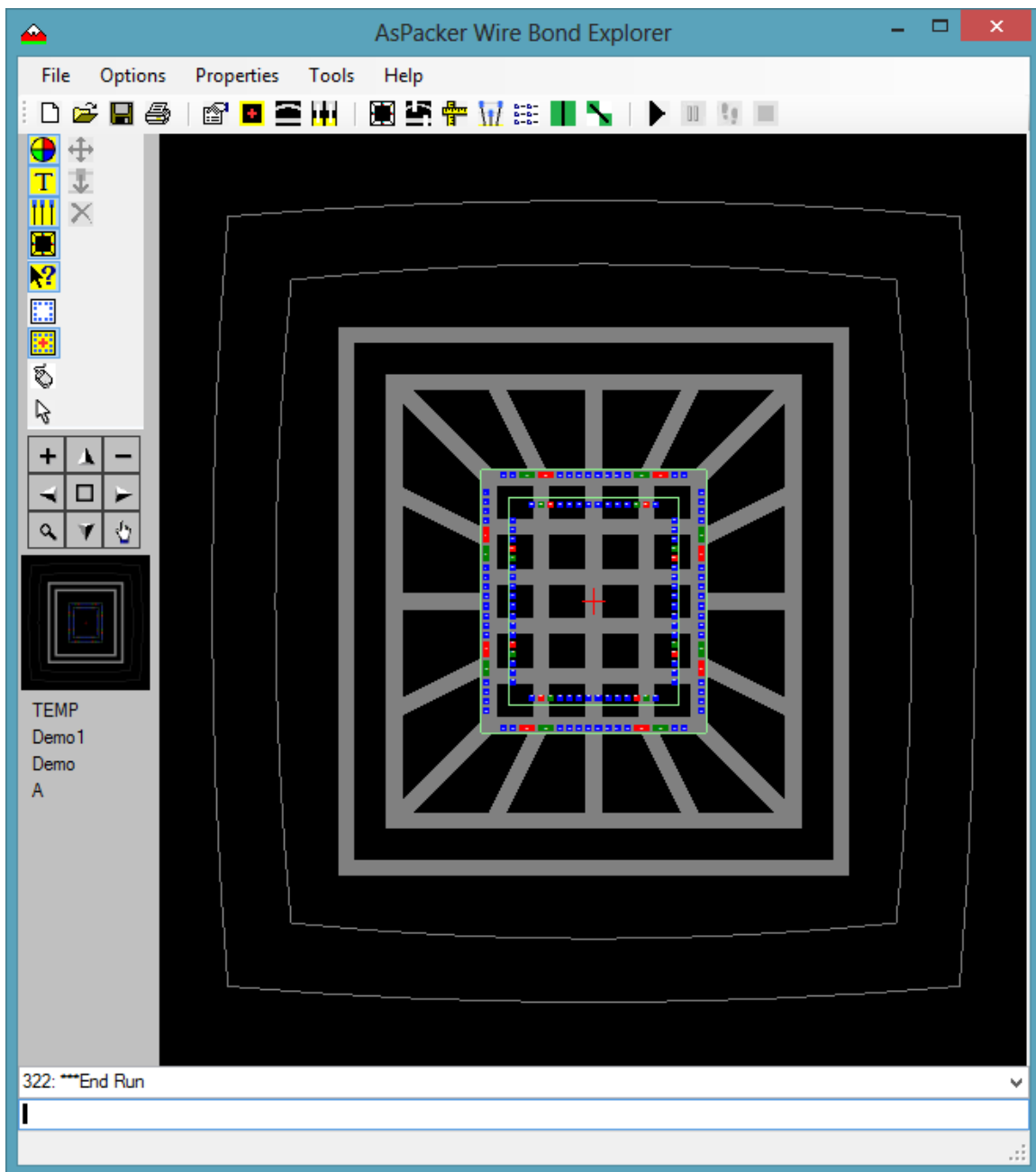
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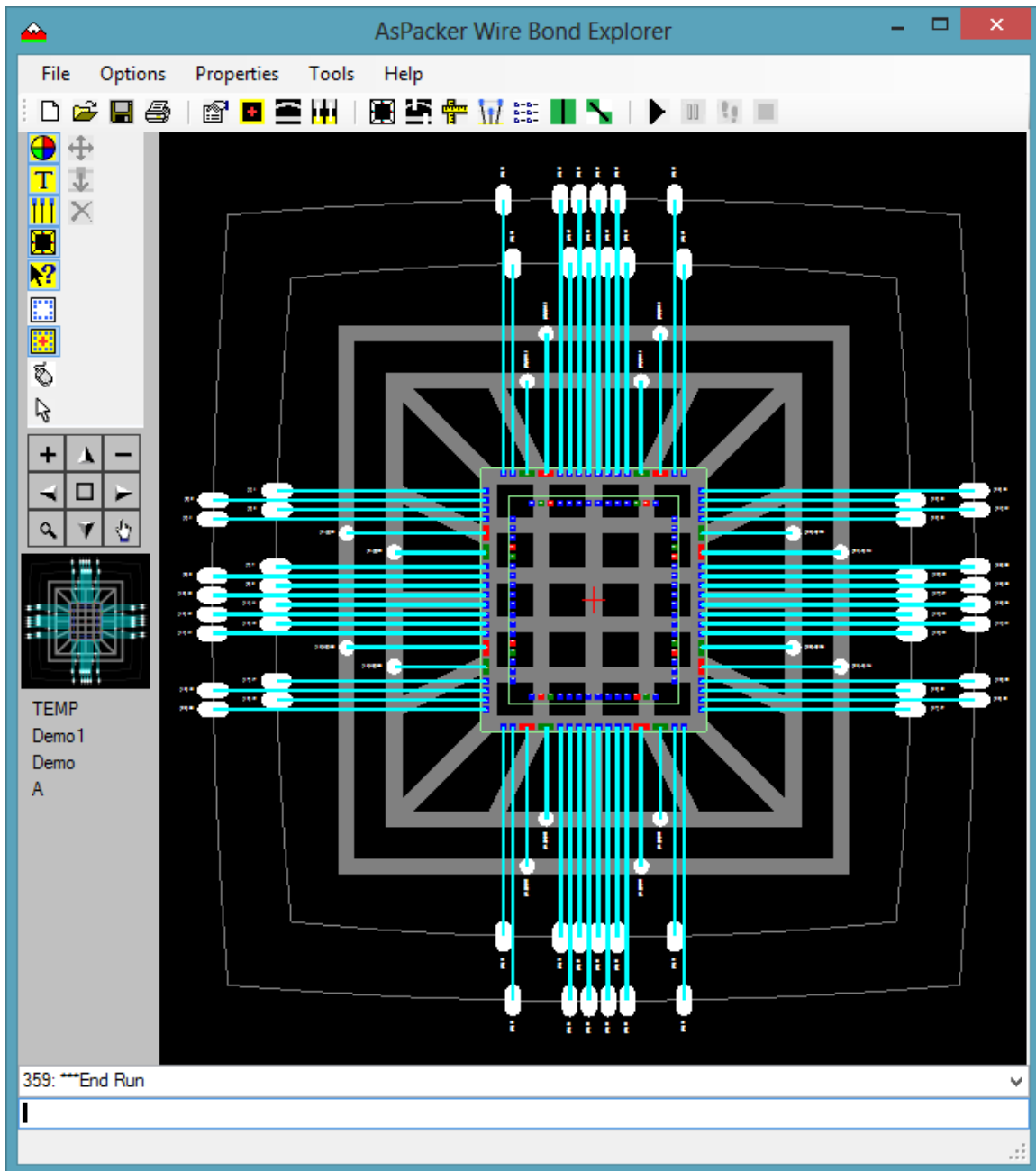
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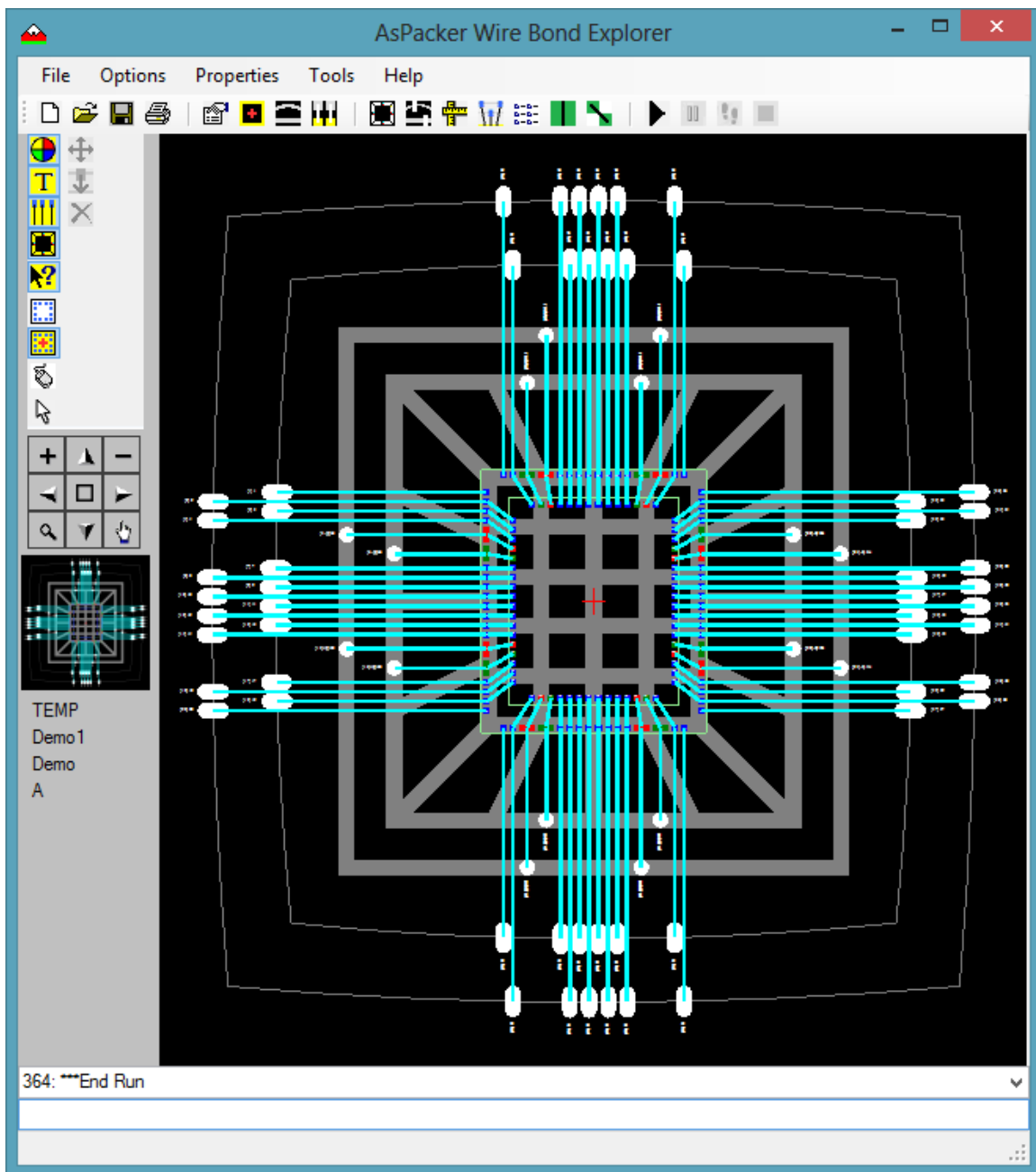
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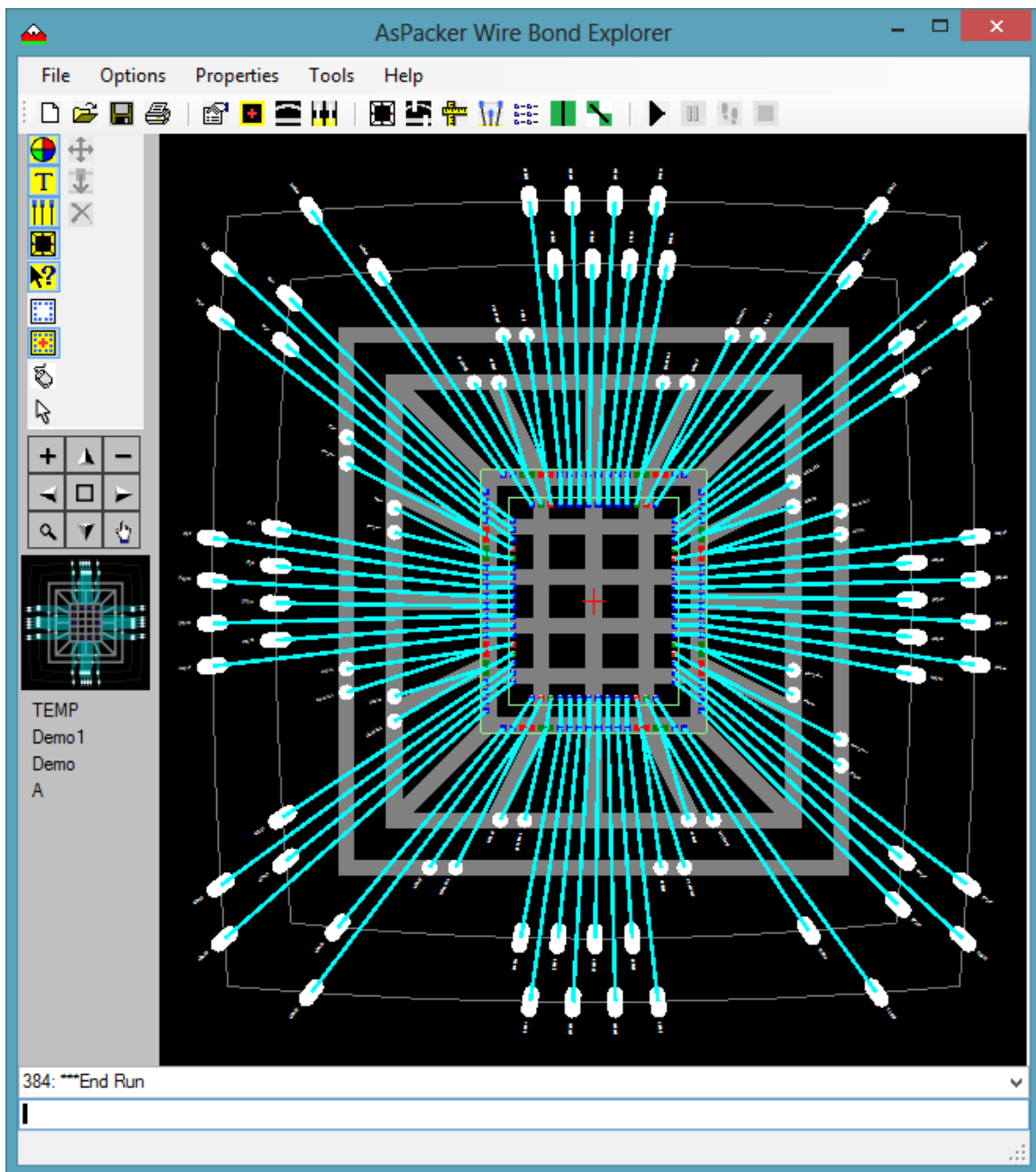
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Run=Assign1.kmd



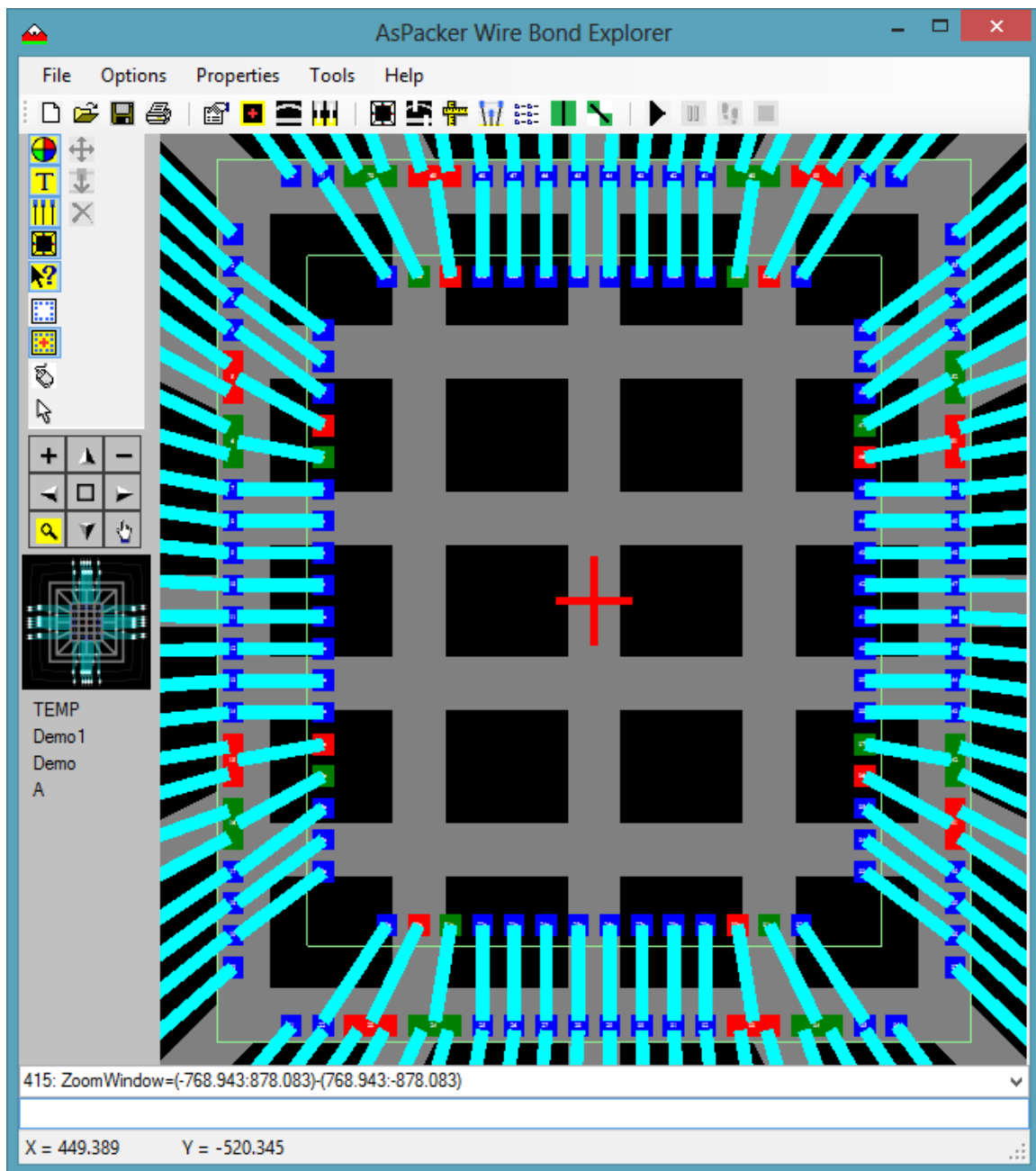
Run=Stitch1.kmd



Run=Fanout1.kmd



Run=OffsetWBAttach1.kmd



3D View:

