402AZ
Reticle Design Description

General Description:
The 402AZ is a binary via reticle. The design consists of submicron vias at various pitches. The reticle contains twenty-one via structures, and eight scatterometry structures.

The reticle was built targeting 0.120um features.
The open area of the reticle is 10.01%
The field size is 20mm X 20mm.

The overall layout is pictured in **Figure A**.

List of Structures & Descriptions:
The structures featured on this reticle are listed below:

1. *Via Structure*: Each size and pitch contains fifteen or more rows of staggered vias depending upon the via size. All sizes are labeled with the pitch and a letter label indicating the via size (Ex. A = 100nm, B = 110nm, C = 120nm, etc.) The sizes and pitches are listed in **Table 1**.

2. *Scatterometry Structure*: The scatterometry structure contains nonstaggered rows of vias. Each size and pitch is divided into a 200 x 200um box. The sizes and pitches are listed in **Table 2**.

VIA/SPACE – Table 1			
Via Width (nm)	**ID Label**	**Pitch (nm)**	**Pitch Ratio**
100	A	220	1.2:1
100	A	400	3:1
100	A	1000	ISO
110	B	220	1:1
110	B	440	3:1
110	B	100	ISO
120	C	220	.83:1
120	C	240	1:1
120	C	300	1.5:1
120	C	360	2:1
120	C	480	3:1
120	C	720	5:1
120	C	1000	ISO
130	D	220	.69:1
130	D	260	1:1
130	D	325	1.5:1
130	D	390	2:1
130	D	520	3:1
130	D	780	5:1
130	D	1000	ISO
140	E	220	.57:1
140	E	260	.86:1
140	E	280	1:1
140	E	350	1.5:1
140	E	420	2:1
140	E	560	3:1
140	E	840	5:1
140	E	1000	ISO
150	F	260	.73:1
150	F	300	1:1
150	F	370	1.47:1
150	F	450	2:1
150	F	600	3:1
150	F	900	5:1
150	F	1500	ISO

VIA/SPACE – Table 1 cont.			
Via Width (nm)	**ID Label**	**Pitch (nm)**	**Pitch Ratio**
160	G	260	.625:1
160	G	320	1:1
160	G	400	1.5:1
160	G	480	2:1
160	G	640	3:1
160	G	960	5:1
160	G	1500	ISO
180	H	260	.44:1
180	H	360	1:1
180	H	450	1.5:1
180	H	540	2:1
180	H	720	3:1
180	H	1080	5:1
180	H	1500	ISO
200	I	400	1:1
200	I	500	1.5:1
200	I	600	2:1
200	I	800	3:1
200	I	1200	5:1
200	I	1500	ISO
250	J	500	1:1
250	J	1000	3:1
250	J	1500	ISO

SCATTEROMETRY (NON Staggered Vias) – Table 2		
Via Width (nm)	**Pitch (nm)**	**Pitch Ratio**
100	200	1:1
100	300	2:1
100	400	3:1
110	220	1:1
110	330	2:1
110	440	3:1
120	240	1:1
120	360	2:1
120	480	3:1
130	260	1:1
130	390	2:1
130	520	3:1
140	280	1:1
140	420	2:1
140	560	3:1

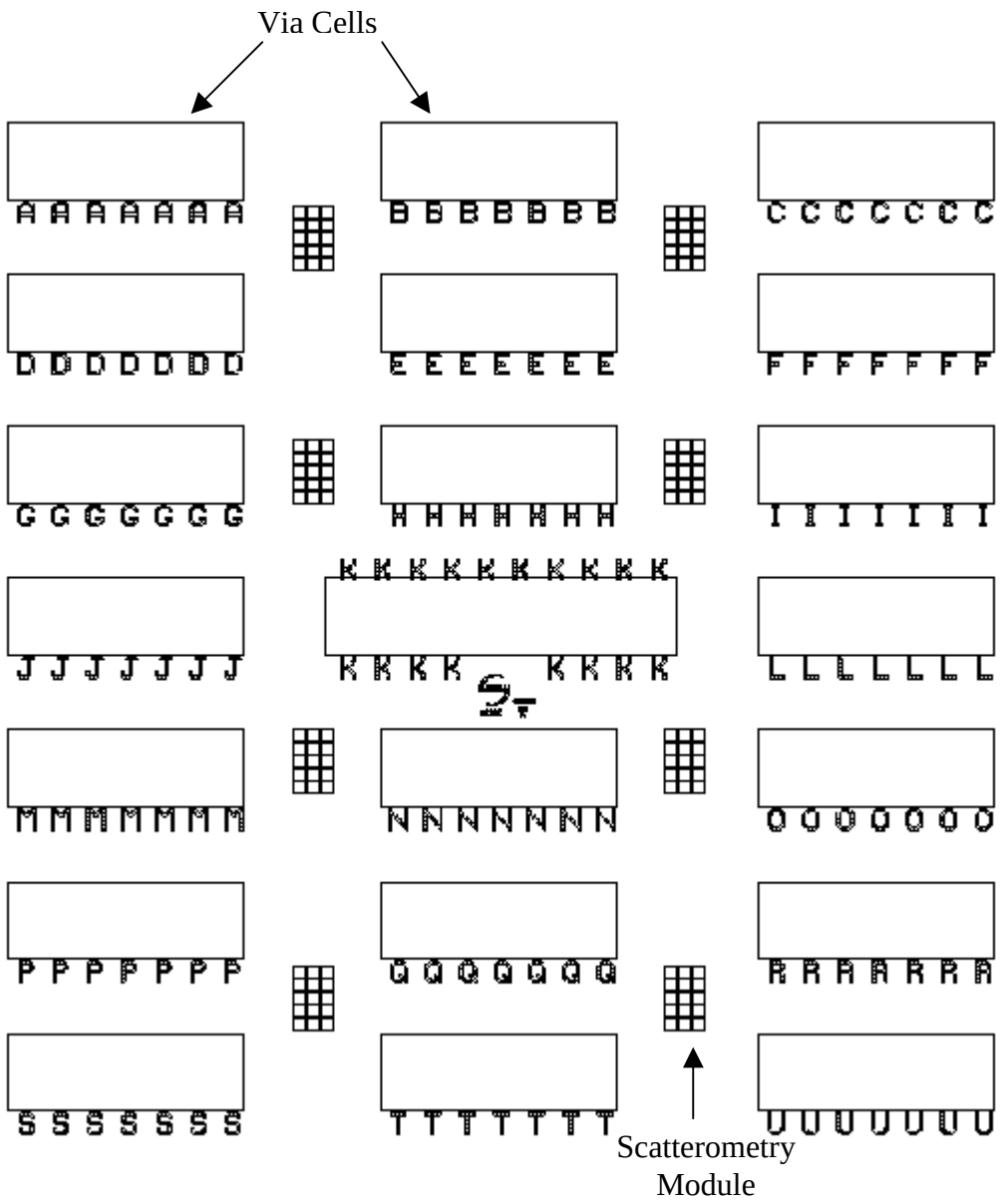

Figure A