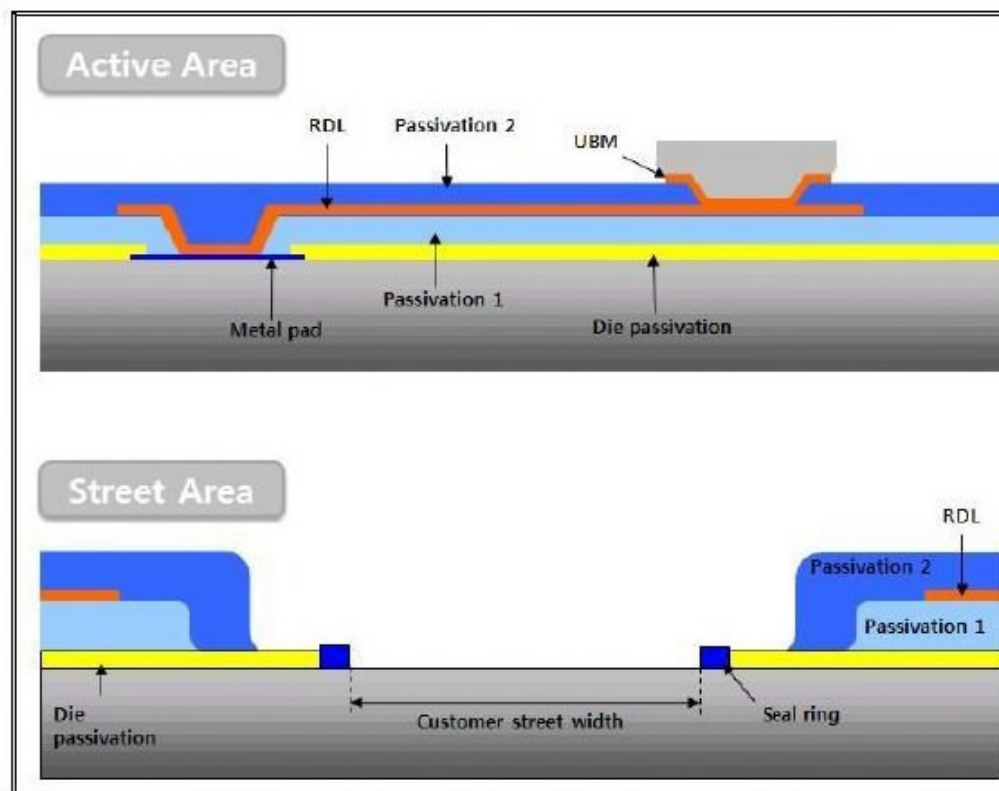
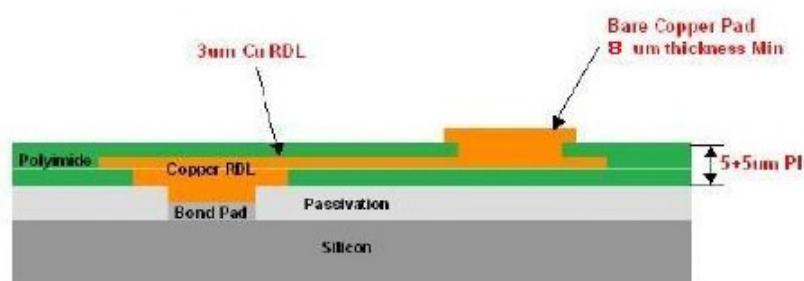




1. General Information

Design Request No	DE115089	Drawing Number / Rev	476014PD/0A
Product ID	P10T191-A4183-VBA	PKG Type	CSPNL(RDL)
Customer Number	1 (AMKOR INTERNAL BUILDS)	Device Name	DC 2X2
Designer	Eileen Chen	Create Date	2012/04/26

2. Cross-section



3. Mask Set

	Layer Name	GDS#	SID Number
Passivation	06	A4183_MASK	A4183-06A1
RDL	10	A4183_MASK	A4183-10A1
Passivation	25	A4183_MASK	A4183-25A1
UBM	30	A4183_MASK	A4183-30A1

4. Die and Wafer Information

Wafer Size	200mm(8")
Wafer Type	SEMI
Notch or Flat	Notch
Die Size Without Street	X:730 Y:730 um
Street Width	X:80 Y:80 um
Chip Size(Die size+Street width)	X:810 Y:810 um
Chip Array in one Reticle(# of die)	X:32 Y:40
Offset of reticle(or map) center to wafer center	X:0 Y:0 um
Reticle Step (Pitch)	X:25920 Y:32400 um
Final Metal Pad of I/O	Size : NA
Final Passivation	Size : NA

5. Target CD Size

Layer Name	06	Material	HD4100 PI
		Thickness	5 um
		Via Size	NA
		Street Removal	X:100 Y:100 um
		Process Bias	Via: +1 um Street : +2.5
Layer Name	10	Trace Material	Cu
		Trace Thickness	3 um
		Trace Width (Min)	100 um
		Trace Space (Min)	142.5 um
		Via Pad Shape	NA
		Via Pad Size	NA
		Bump Pad Shape	Circular / Square
		Bump Pad Size	225 um / 290 um
		Process Bias	+0.75 um
Layer Name	25	Material	HD4100 PI
		Thickness	5 um
		Via Size	170 um
		Street Removal	X:80 Y:80 um
		Process Bias	Via: +1.4 um Street : +2.5
Layer Name	30	Material	TiW / Cu UBM
		Size	205 um
		Process Bias	+2 um

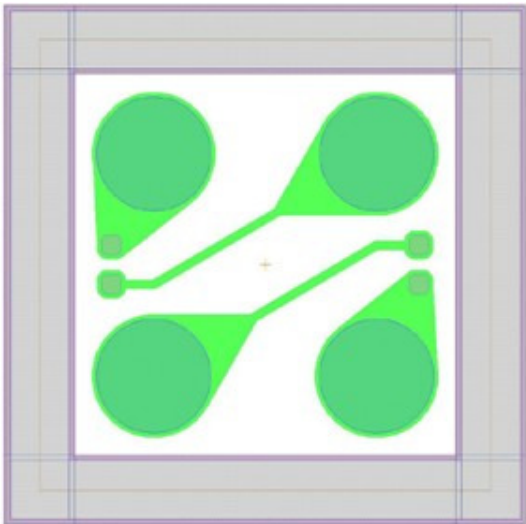
6. Technical Information

Ball Place or Electroplated	Electroplated
Bump On Pad or redistribution Layer	Redistribution Layer
Bump Material	Cu bump
Bump Height	10 um
Bump pitch	400 um
Bump Shear Strength	>2 g/mil ²
Bump per Die	4
Die per Wafer	Total: 44573
Plating Area	30 : 5948 mm2 10 : 10804 mm2

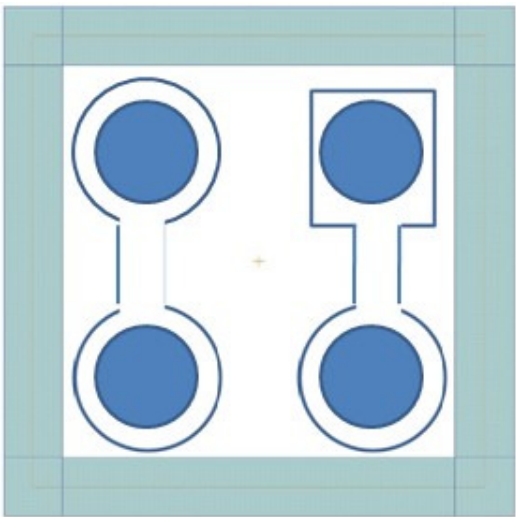
7. Design Detail

All Dimensions of CD sizes in this section are mask dimensions.

Customer die	
Description	Die Pattern From Customer

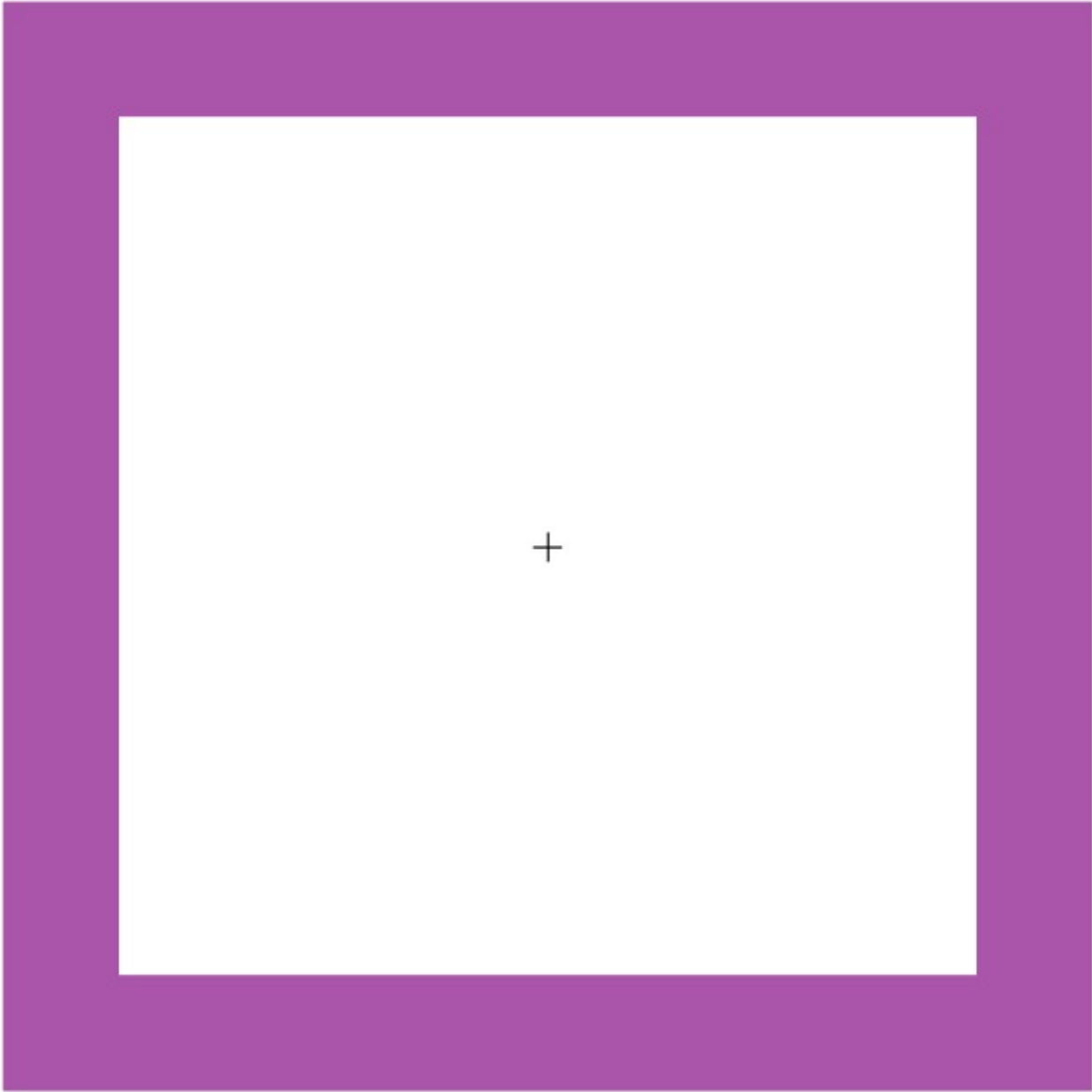


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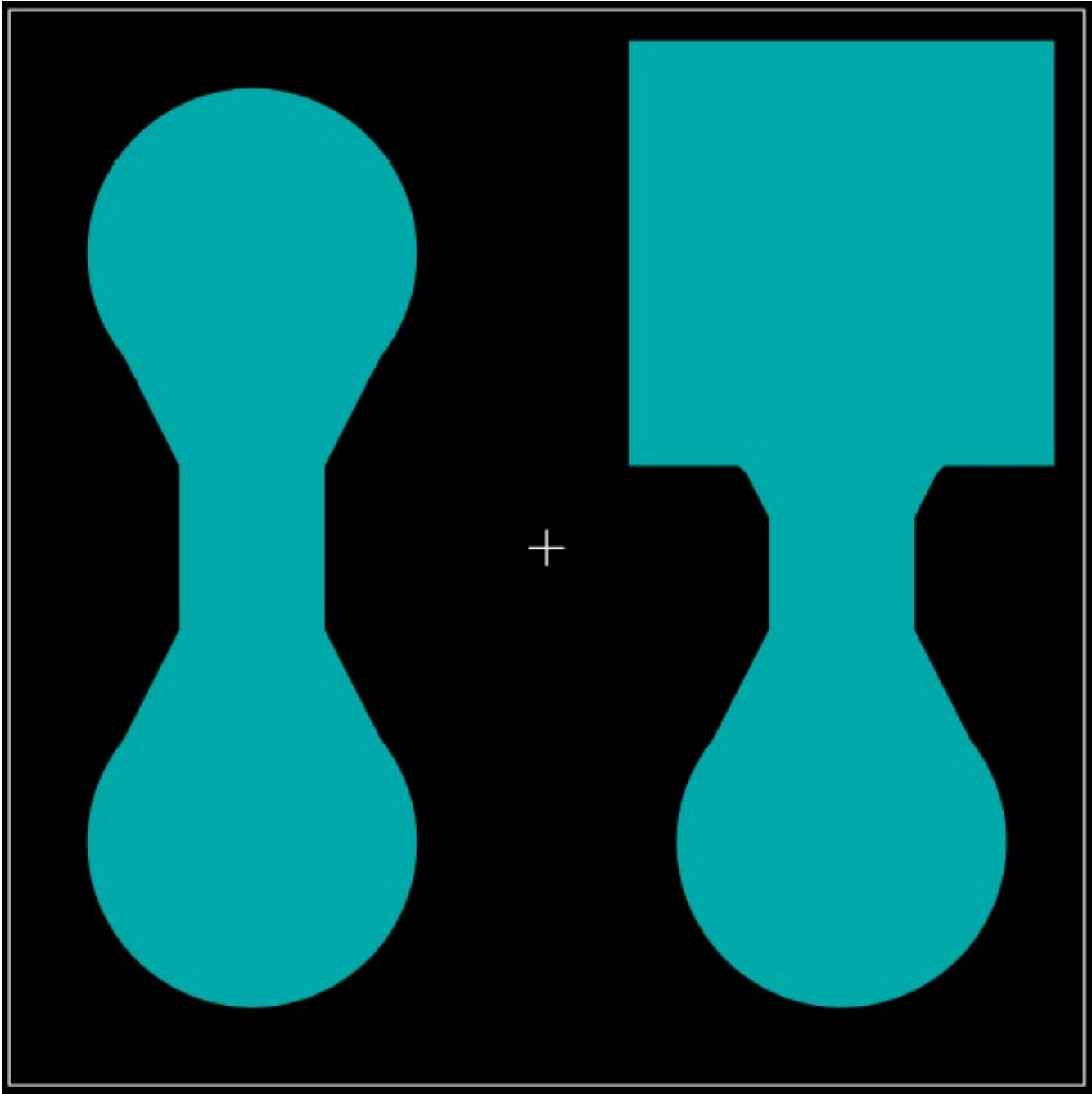


This project

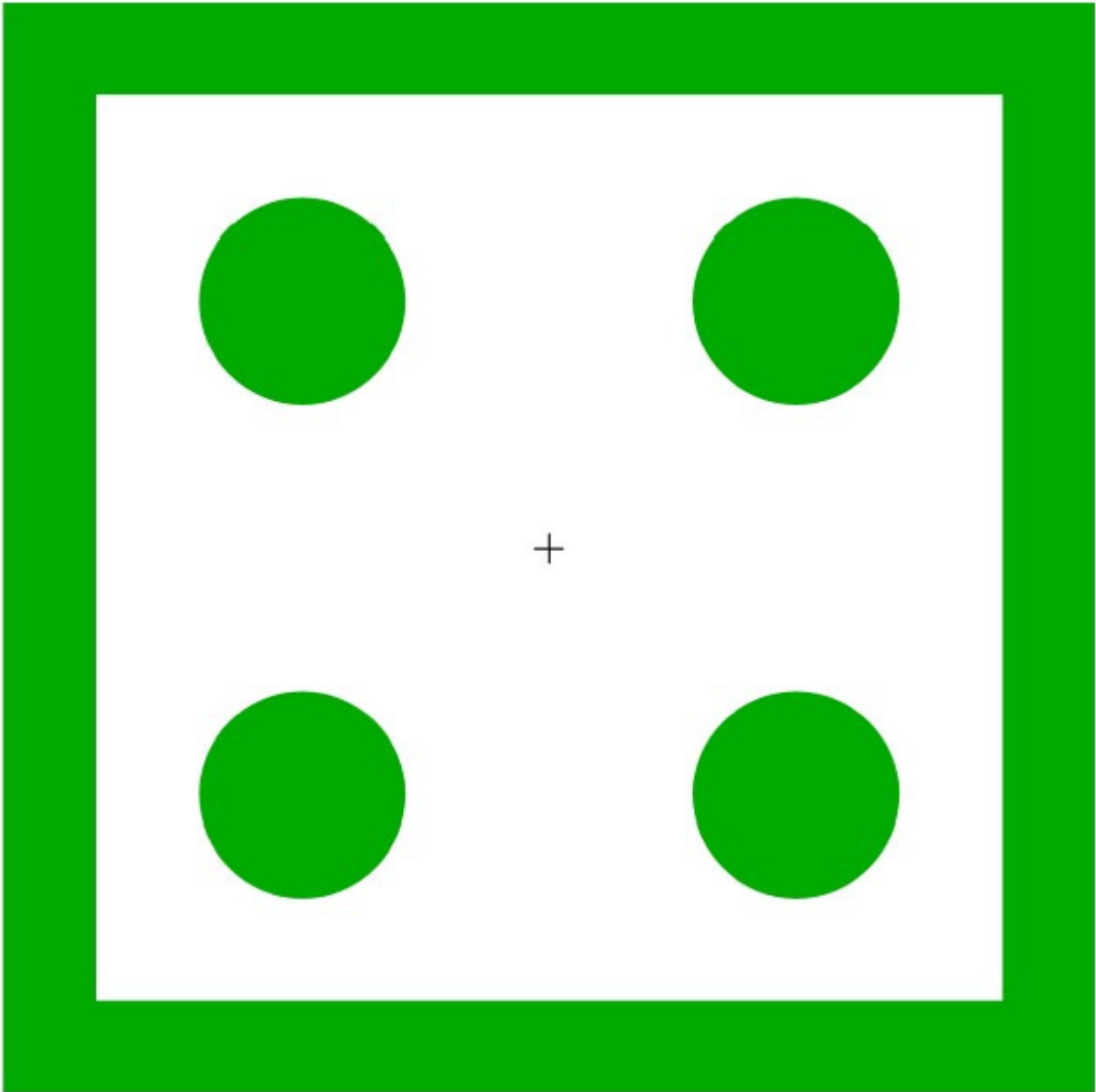
Passivation1			
Layer Name	06	SID Number (Mask ID)	A4183-06A1(A4183-06A1)
GDS#	A4183_MASK	Polarity	Dark Pattern/Clear Field
Via Size	NA	Street Removal	X:95 Y:95 um
Description	Main Die : PI1		



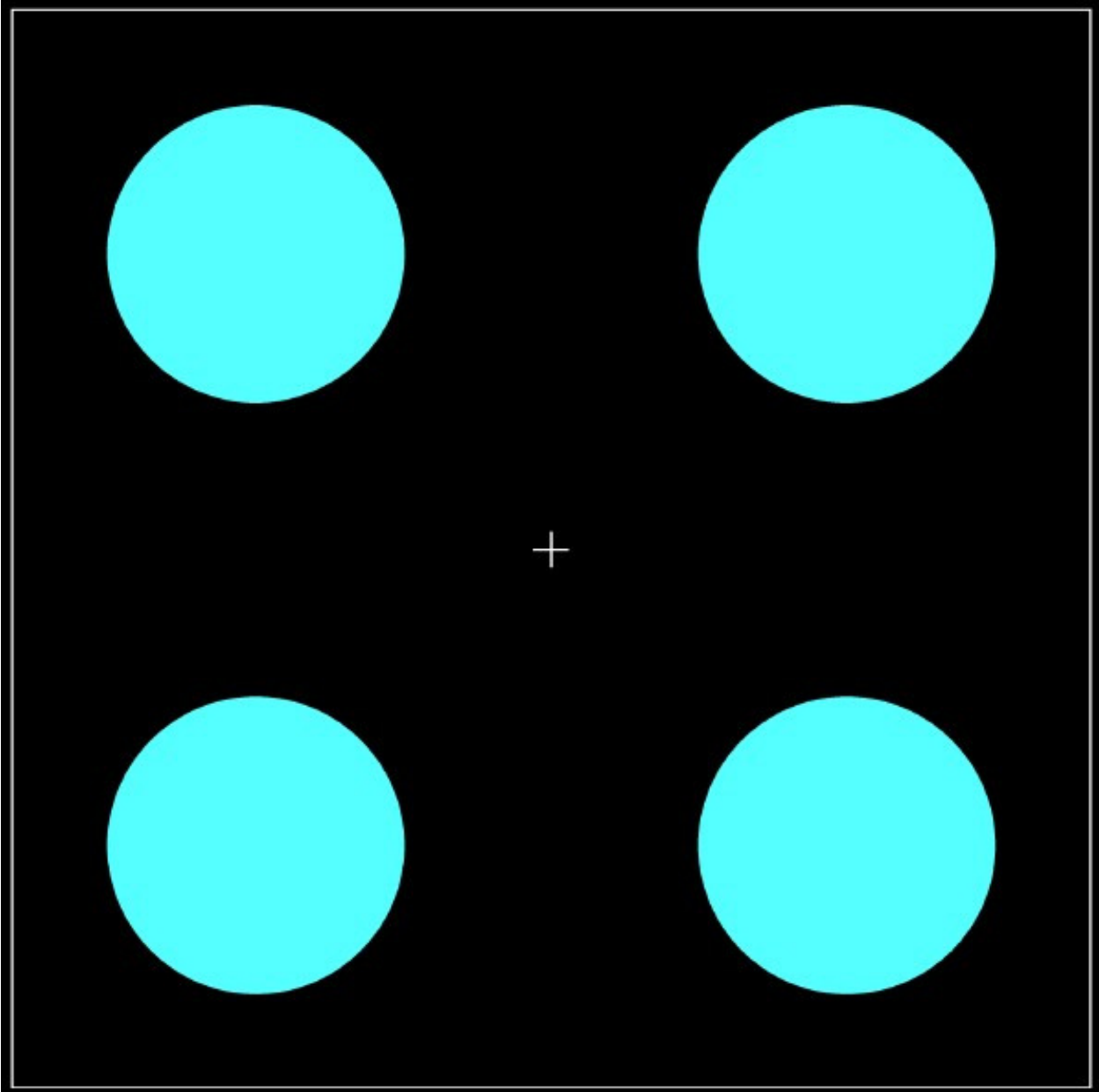
RDL1			
Layer Name	10	SID Number (Mask ID)	A4183-10A1 (A4183-10A1)
GDS#	A4183_MASK	Polarity	Clear Pattern/Dark Field
Trace Width (Min)	98.5 um	Trace Space (Min)	414 um
Via Pad Shape	NA	Via Pad Size	NA
Bump Pad Shape	Circular / Square	Bump Pad Size	223.5 / 288.5 um
Description	Main Die : RDL		



Passivation2			
Layer Name	25	SID Number (Mask ID)	A4183-25A1(A4183-25A1)
GDS#	A4183_MASK	Polarity	Dark Pattern/Clear Field
Via Size	167.2 um	Street Removal	X:75 Y:75 um
Description	Main Die : PI2		

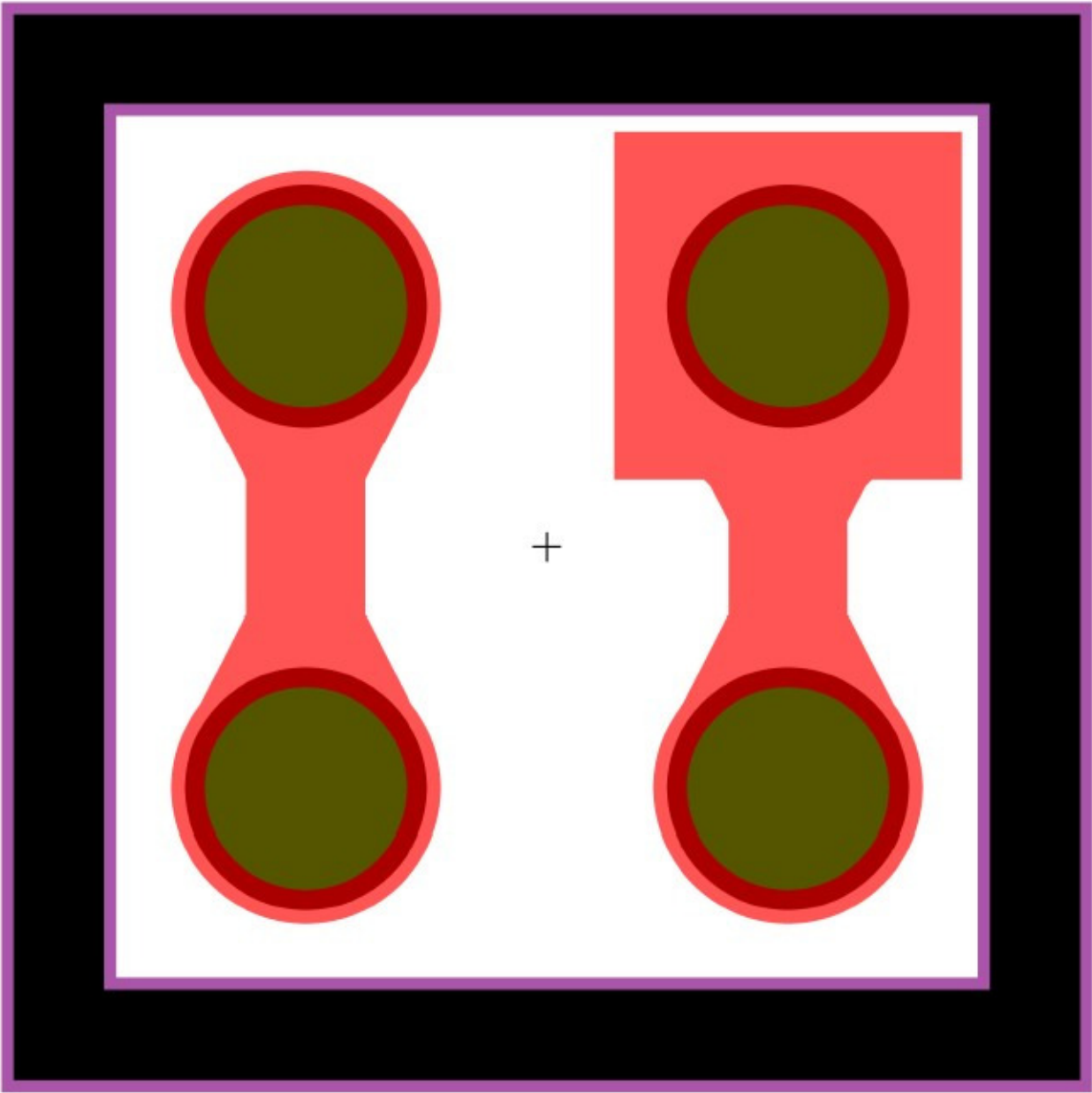


UBM			
Layer Name	30	SID Number (Mask ID)	A4183-30A1 (A4183-30A1)
GDS#	A4183_MASK	Polarity	Clear Pattern/Dark Field
UBM Shape	Circular	Size	201 um
Description	Main Die : UBM		

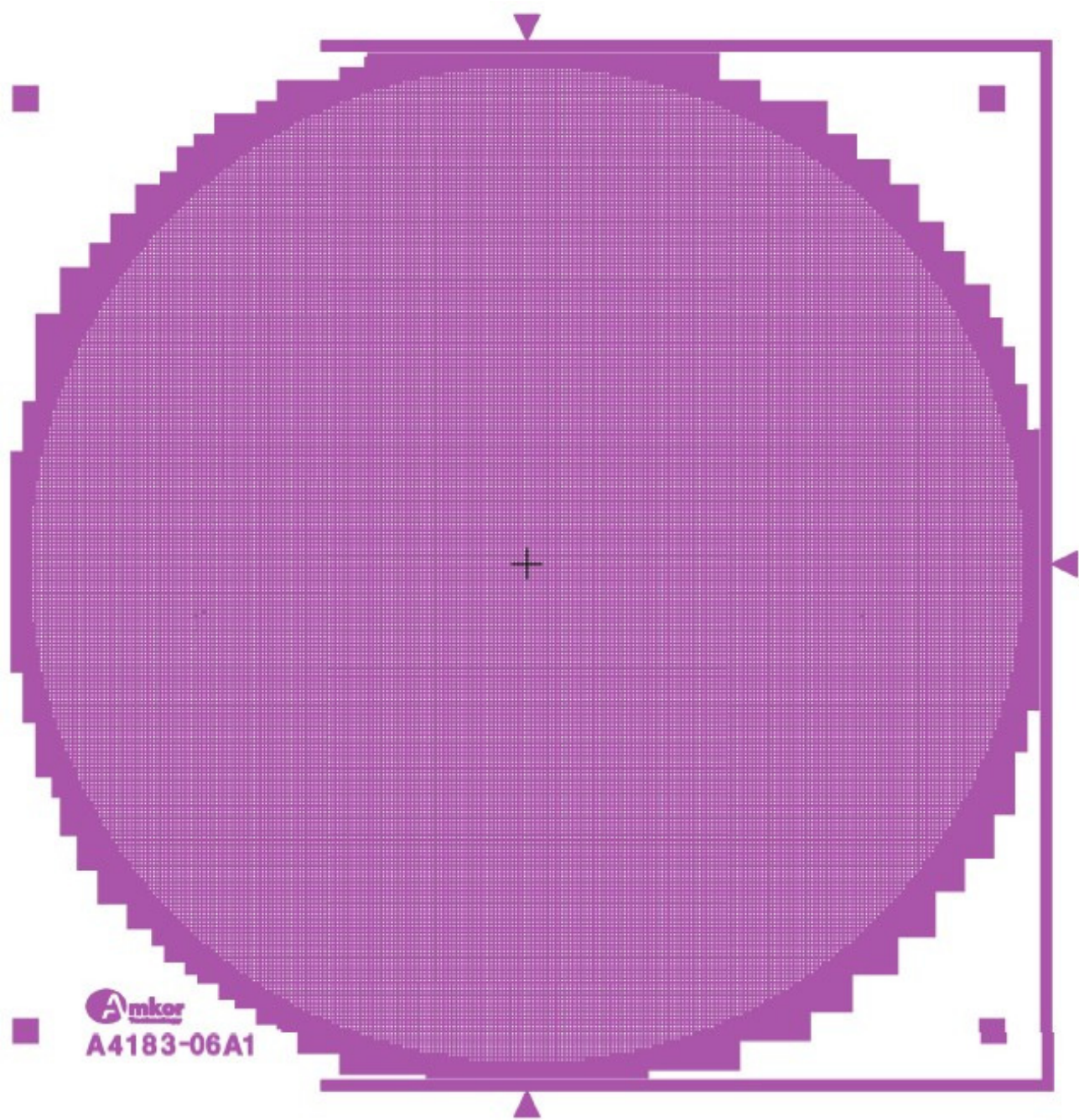


Active Die (All Layers)

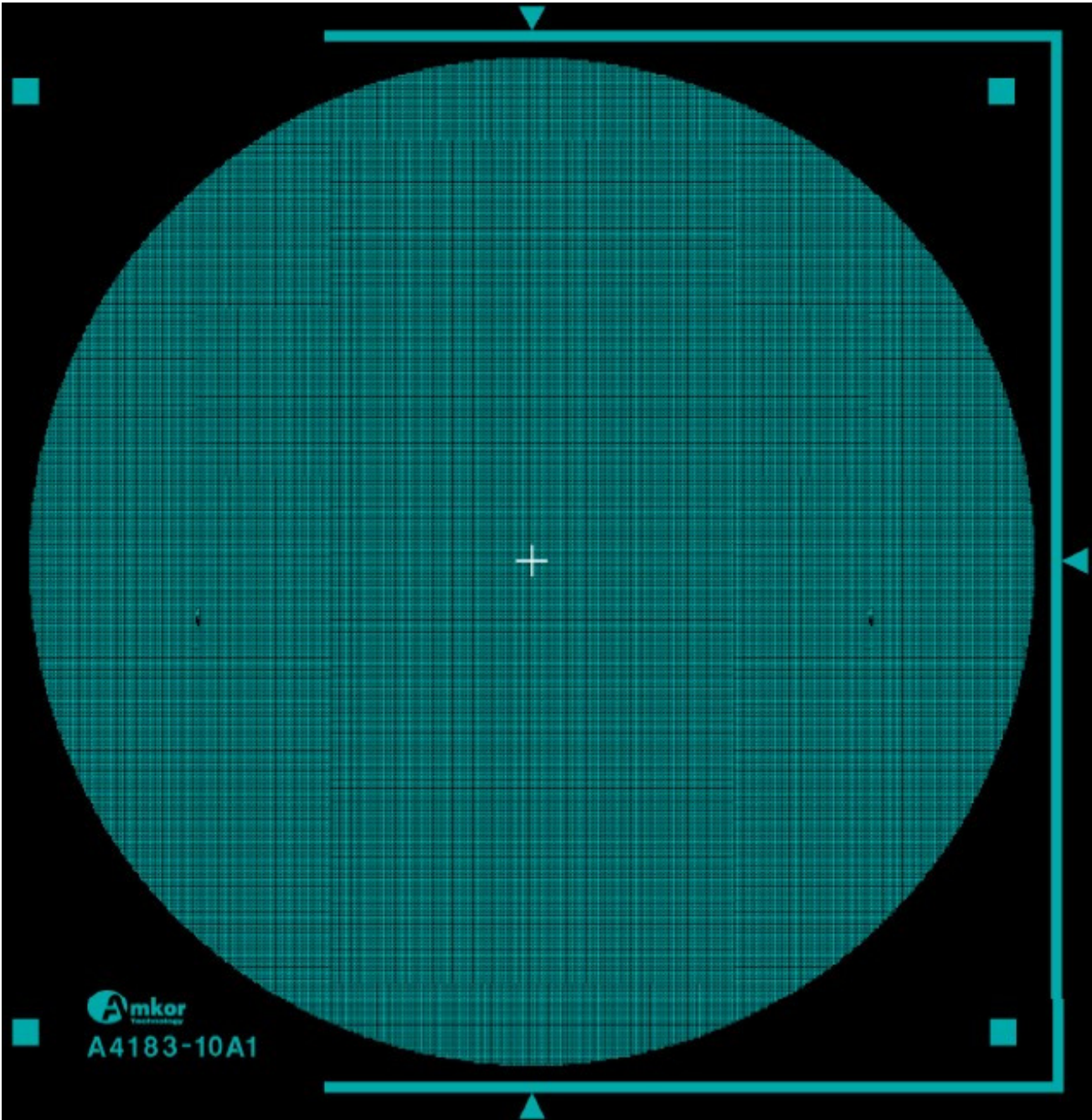
Description	Main Die : Combination
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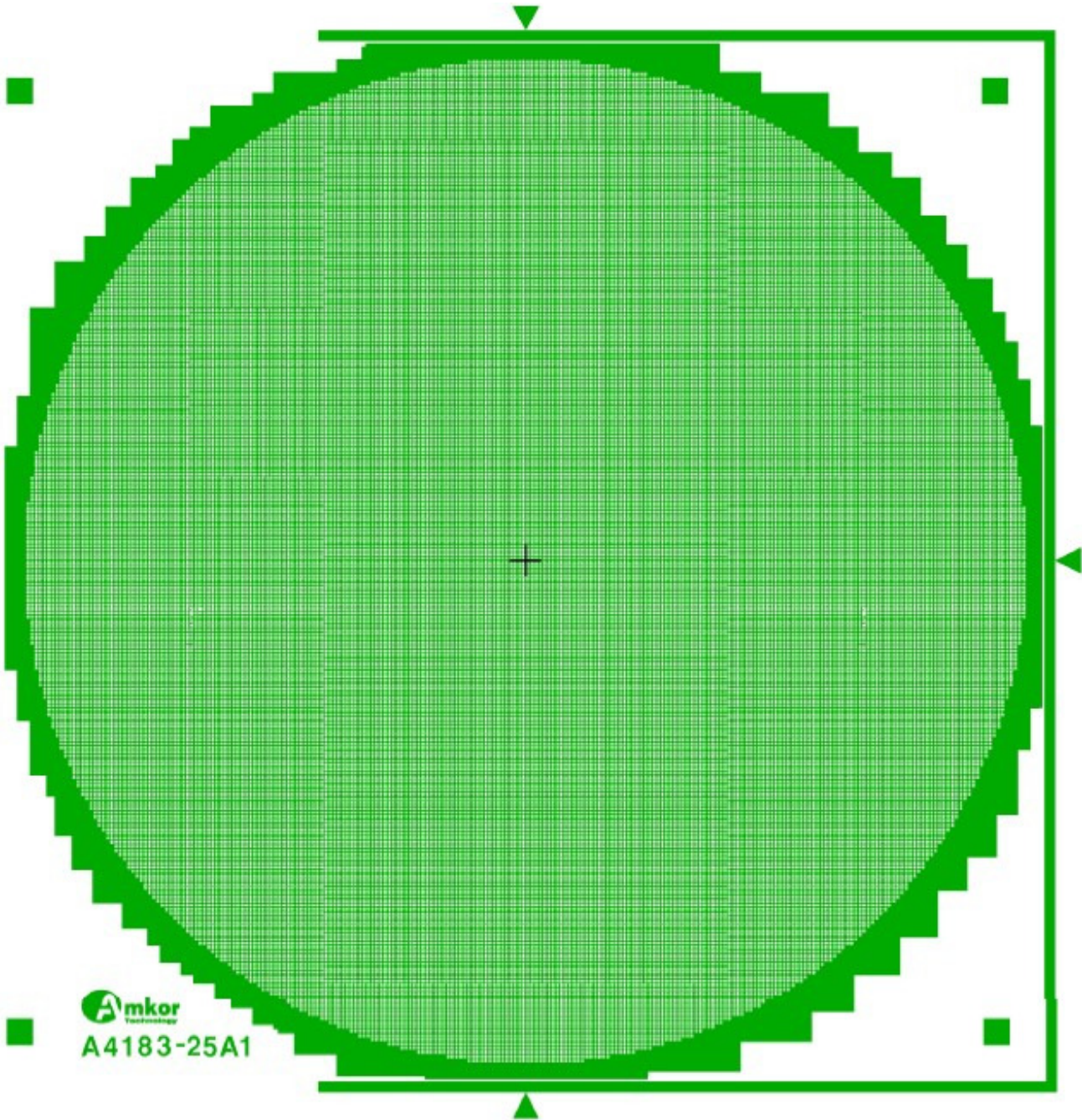
Mask	
Description	Mask Full Plot : PI1



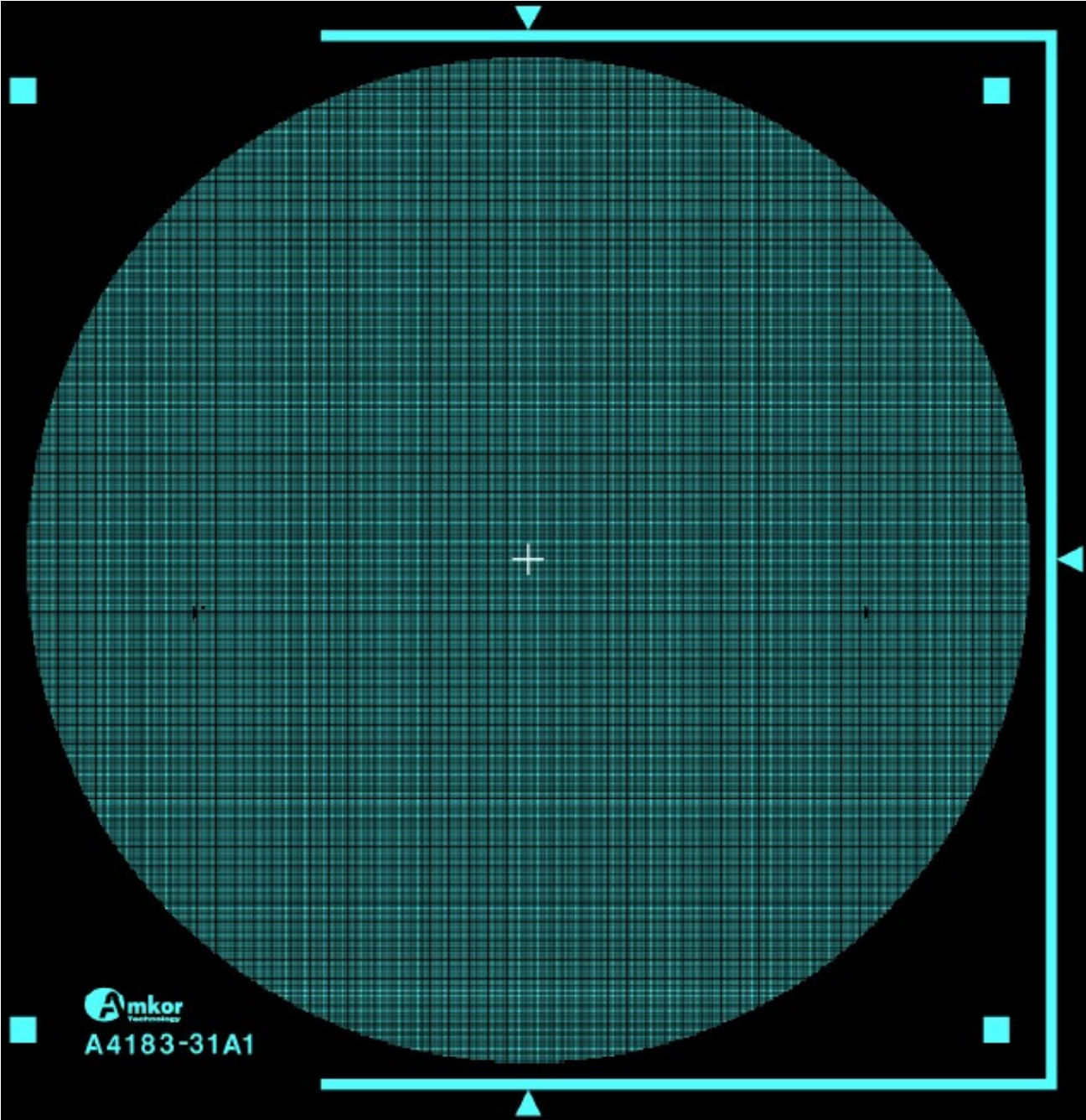
Mask	
Description	Mask Full Plot : RDL



Mask	
Description	Mask Full Plot : PI2



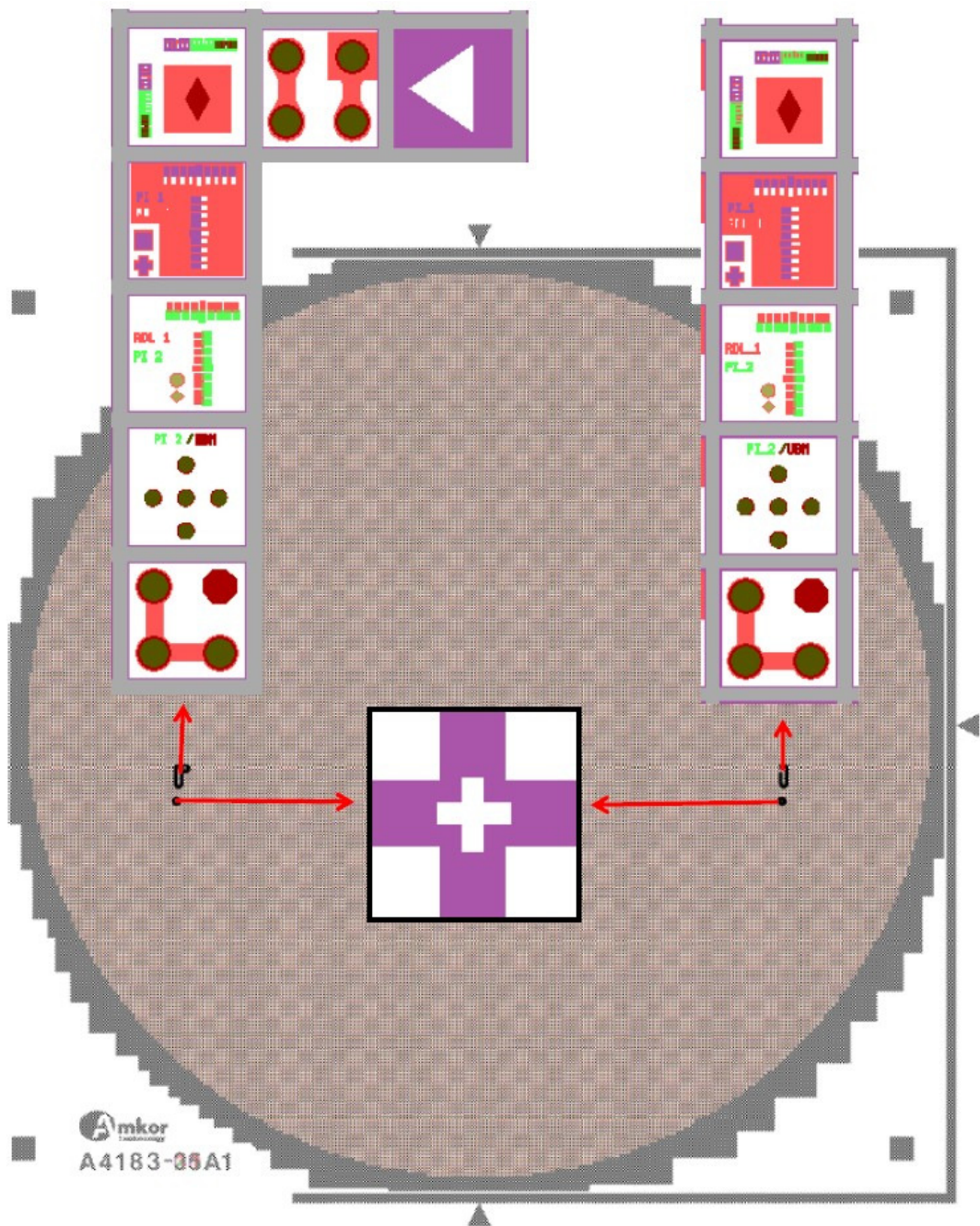
Mask	
Description	Mask Full Plot : UBM



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Alignment Die (All Layers)

Description	Alignment Die: Combination
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8. Comments

REV	DESCRIPTION	DATE	Revised By
0A	Initial Release	2012/4/26	Eileen Chen