Hi-556

AAA0556NXX

(YACF5D0C9SHC)

1/5” 5M Pixel CMOS Image Sensor

Chip information_A : Rev.1.3

Oct.2020

Contents

1. Revision History

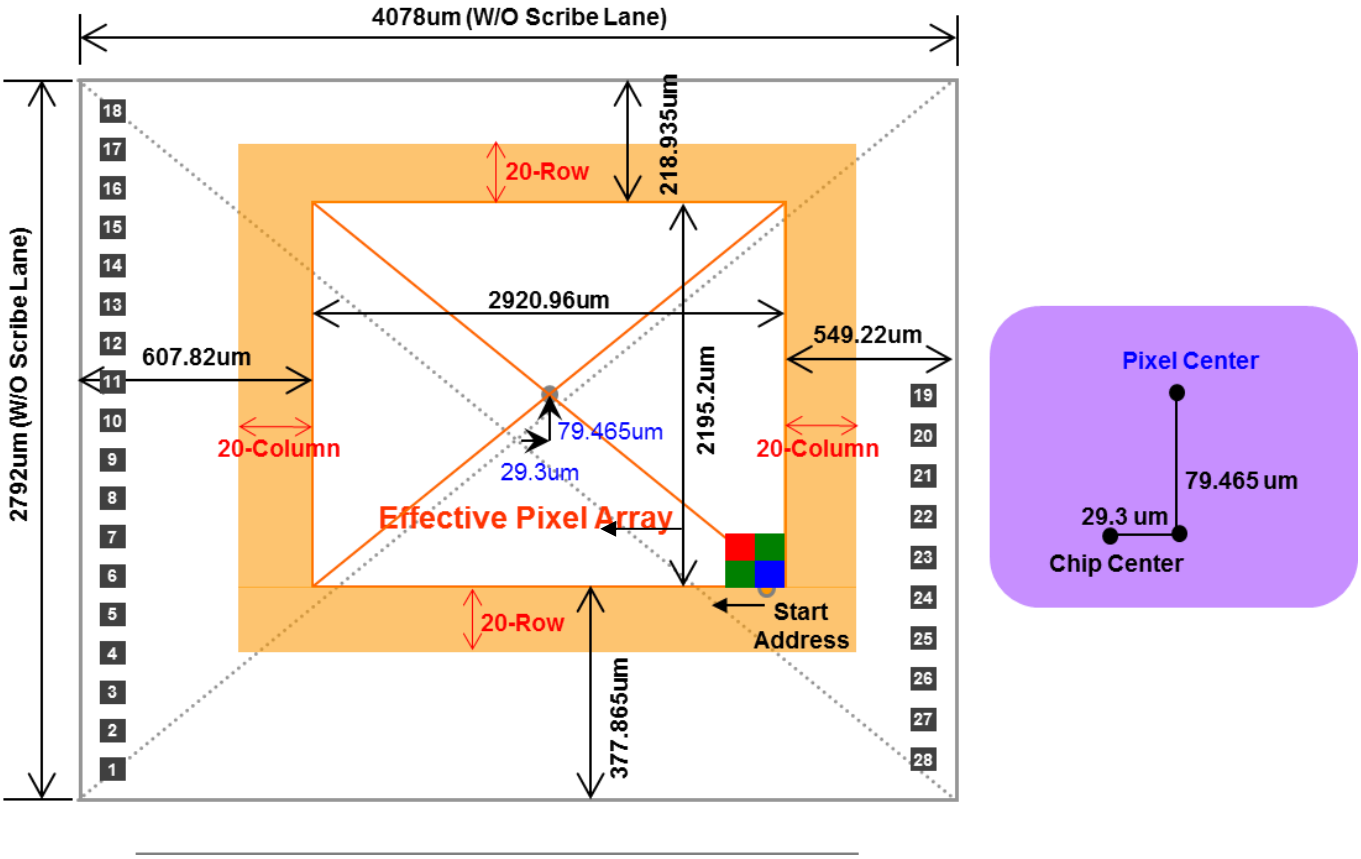
Revision No.	History	Draft Date	Remark
0.0	**Defined Chip Information**	**2016. 07. 08**	**Preliminary**
1.0	Add FSYNC Pad and modify reference schematic	**2017. 08. 23**	
1.1	Update CRA field data	**2017. 10. 11**	
1.2	Update CRA field data	**2020. 09. 22**	
1.3	Update product code	**2020. 10. 16**	

Symbol(1)	A	B	C	D	E	F
Max CRA	32.8°	31.7°	N/A	N/A	N/A	N/A

2. Wafer Features

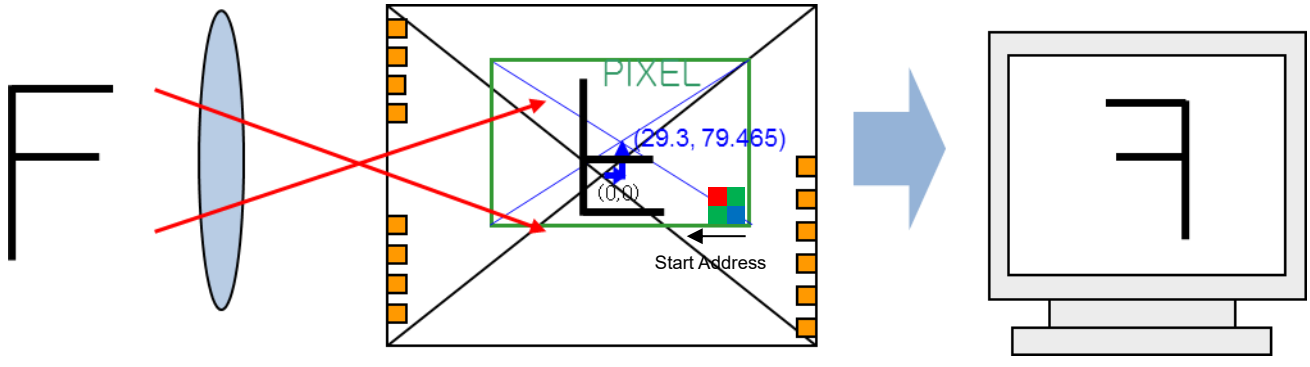
Category	Item	Specification
Model	Part No.	AAA0556NXX(YACF5D0C9SHC)
Sensor Type	Sensor Type	CIS only
	Image Size	2592 X 1944
Optical Feature	Optical Format	1/5”
Chip	Chip Size(W/O Scribe Lane)	4078um(H) x 2792um(V)
Wafer	Wafer Size	8 inch
	Wafer Thickness (W/O Back Grinding)	725um
	Wafer Thickness (Back Grinding)	200um
	Scribe Lane width	80um(H) x 80um(V)
	Test Pattern in Scribe Lane	80um
Pixel	Pixel Size	1.12um x 1.12um

3. Chip Layout

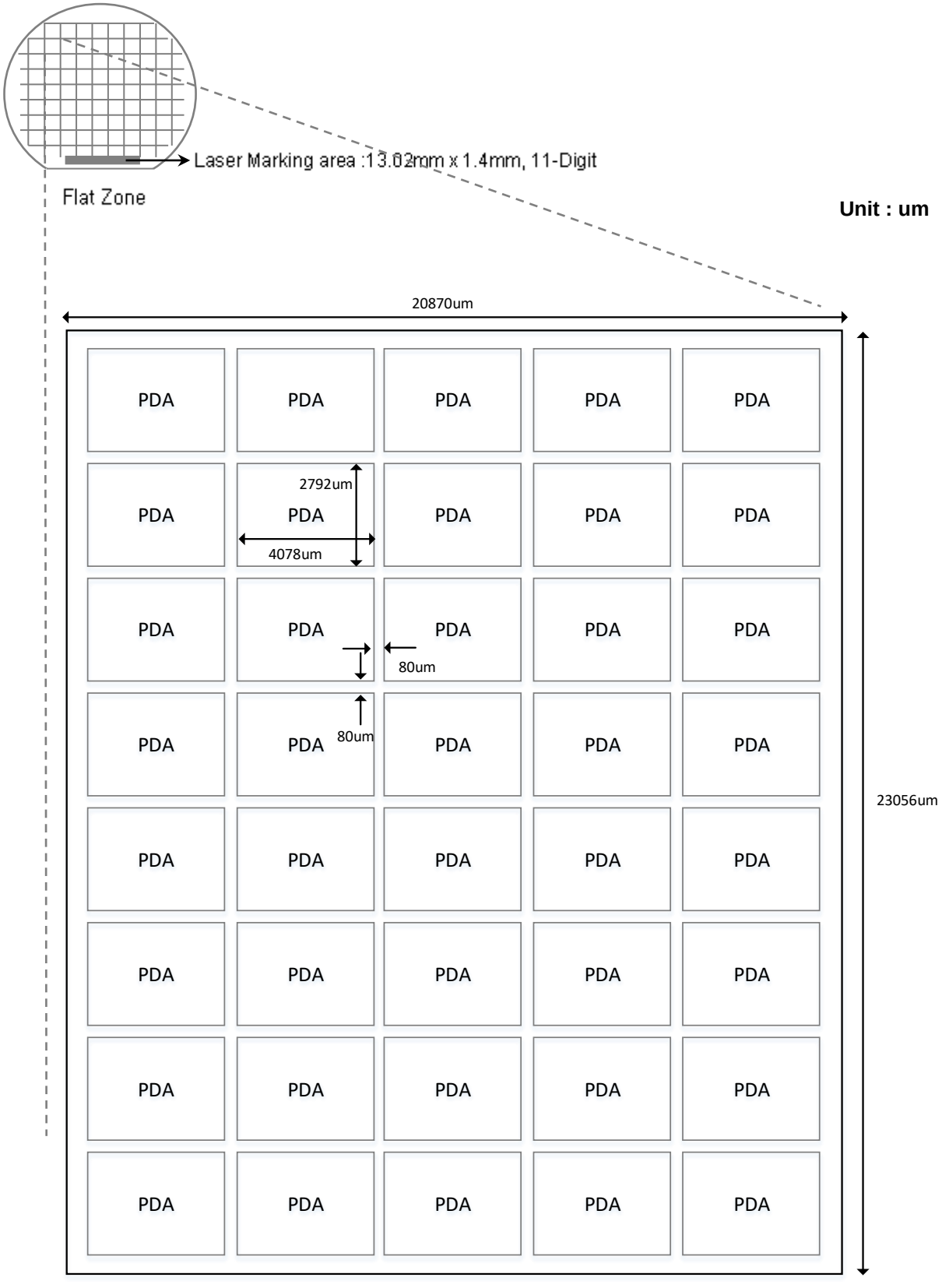


Item	X	Y
Chip Size	4078.00um	2792.00um
Chip Center from Left Bottom	2039.00um	1396.00um
Active Pixel Array Center from Left Bottom	2068.30um	1475.465um
Effective Pixel Array Size (2608 x 1960)	2920.96um	2195.20um
Pad Size	80.00um	80.00um

<Default Readout Position>



4. Frame Information



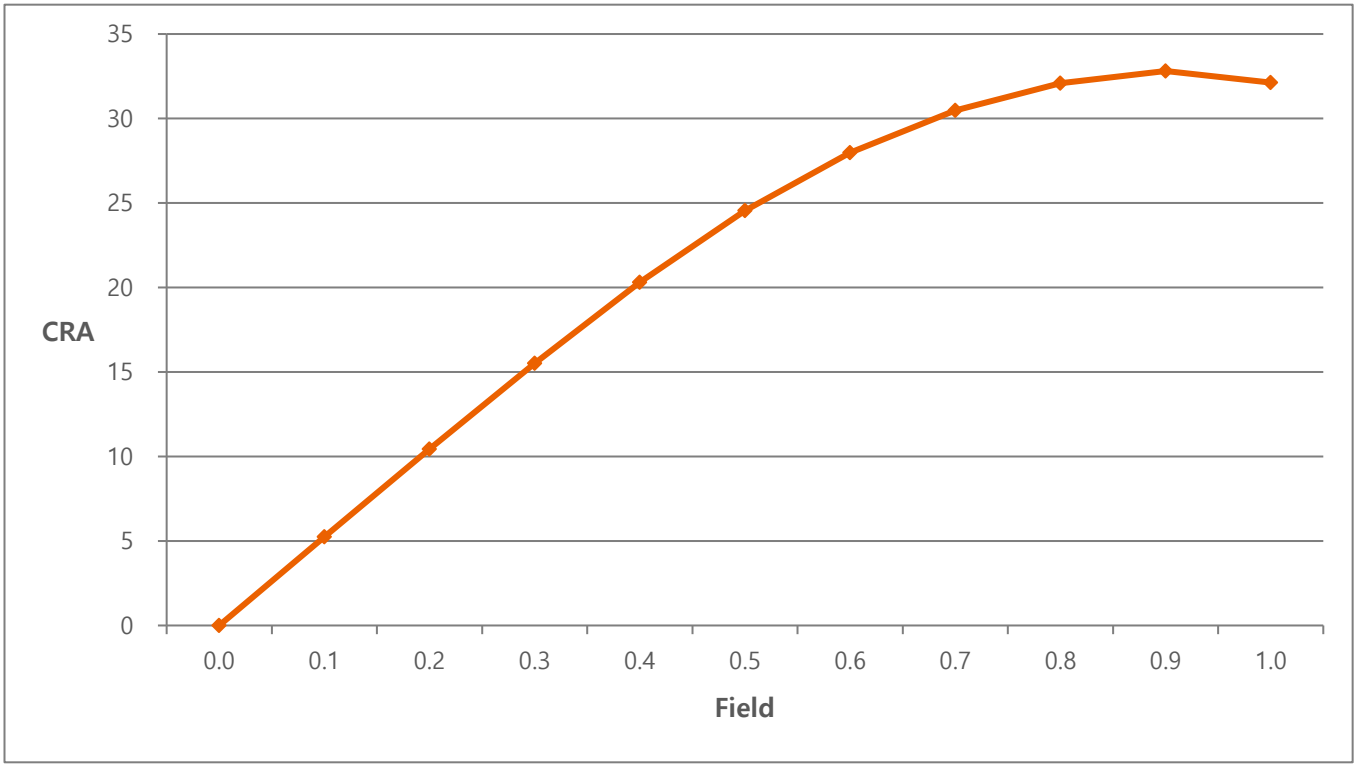
5. Pad Description

Unit: um

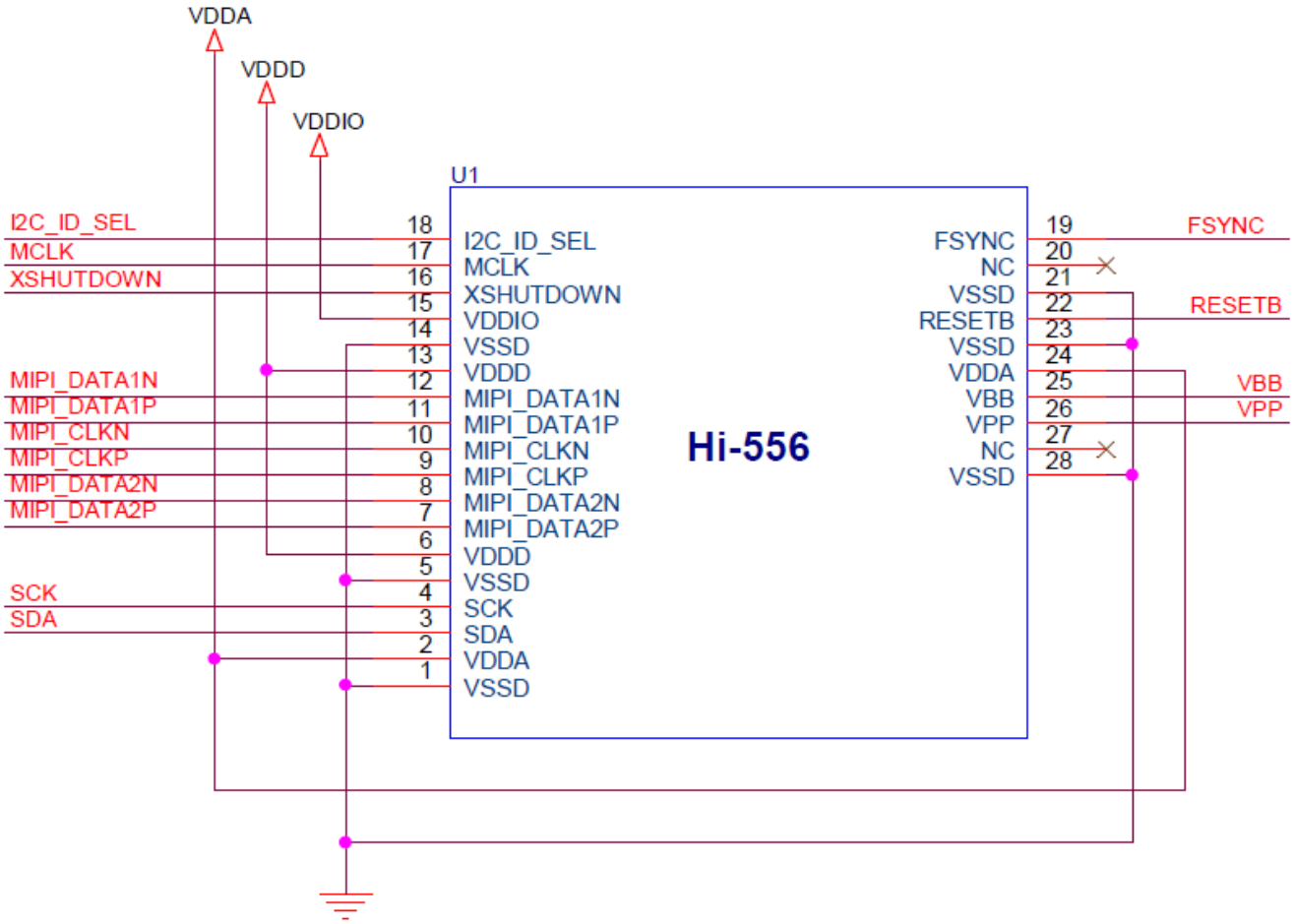
PAD No.	PAD NAME	Description	Location		IO Type
			X	Y	
1	VSSD	VSS External Ground	-1920.3	-1272	Ground
2	VDDA	Analog Power	-1920.3	-1115	2.8V Power
3	SDA	Data for two-wire serial interface	-1920.3	-909	Bi-Directional
4	SCK	Clock for two-wire serial interface	-1920.3	-758	Input
5	VSSD	VSS External Ground	-1920.3	-617	Ground
6	VDDD	VDD External Power	-1920.3	-487	1.2V Power
7	MIPI_DATA2P	MIPI Interface Data Channel 2 Anode	-1920.3	-337	0~1.2V Analog output
8	MIPI_DATA2N	MIPI Interface Data Channel 2 Cathode	-1920.3	-207	0~1.2V Analog output
9	MIPI_CLKP	MIPI Interface CLK Anode	-1920.3	-77	0~1.2V Analog output
10	MIPI_CLKN	MIPI Interface CLK Cathode	-1920.3	53	0~1.2V Analog output
11	MIPI_DATA1P	MIPI Interface Data Channel 1 Anode	-1920.3	183	0~1.2V Analog output
12	MIPI_DATA1N	MIPI Interface Data Channel 1 Cathode	-1920.3	313	0~1.2V Analog output
13	VDDD	VDD External Power	-1920.3	463	1.2V Power
14	VSSD	VSS External Ground	-1920.3	593	Ground
15	VDDIO	VDDIO External Power	-1920.3	750	1.8~2.8V Power
16	XSHUTDOWN	XSHUTDOWN Signal	-1920.3	895	Input
17	MCLK	MCLK Clock Signal	-1920.3	1059	Input
18	TD0	If connected VSSD, Device ID is 0x40 @8bit If connected VDDIO, Device ID is 0x50 @8bit	-1920.3	1223	Input
19	STROBE/ FSYNC	Strobe Test/FSYNC	1920.3	35	Bi-Directional
20	-	-	1920.3	-100	NC
21	-	-	1920.3	-252	Connect to VSSD
22	RESETB	Resetb Signal	1920.3	-439	Input
23	VSSD	VSS External Ground	1920.3	-583	Ground
24	VDDA	Analog Power	1920.3	-740	2.8V Power
25	VBB	Negative Charge Pump Capacitor Node	1920.3	-870	Connect to 1uF Cap.
26	VPP	Positive Charge Pump Capacitor Node	1920.3	-1010	Connect to 1uF Cap.
27	-	-	1920.3	-1140	NC
28	VSSD	External VSS Ground	1920.3	-1270	Ground

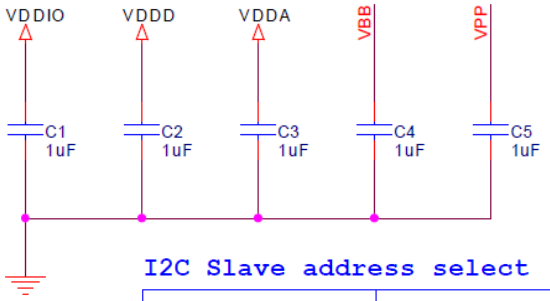
6. CRA Information

Field	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
AAA0556NXX CRA	0.0	5.24	10.43	15.51	20.3	24.55	27.98	30.48	32.09	32.81	32.13
Image Height	0.000	0.181	0.363	0.544	0.726	0.907	1.089	1.27	1.452	1.633	1.814



7. Reference Module Schematic





POWER SUPPLY
VDDIO - 1.8V or 2.8V
VDDA, VDDAPX - 2.8V
VDDD - 1.2V

I2C Slave address select

PAD	Input	I2C Slave address
#18(I2C_ID_SEL)	Low(GND)	W-0x40@8bit R-0x41@8bit
#18(I2C_ID_SEL)	High(VDDIO)	W-0x50@8bit R-0x51@8bit

Sensor control

PAD	Normal control	X-Shutdown control
X-Shutdown (PAD #16)	Connect to AP GPIO	Connect to AP GPIO
RESETB (PAD #22)	Connect to AP GPIO	Connect to VDDIO

Note

FSYNC(PAD #19) - If unused, this pad should be unconnected