## **KiCad Example**

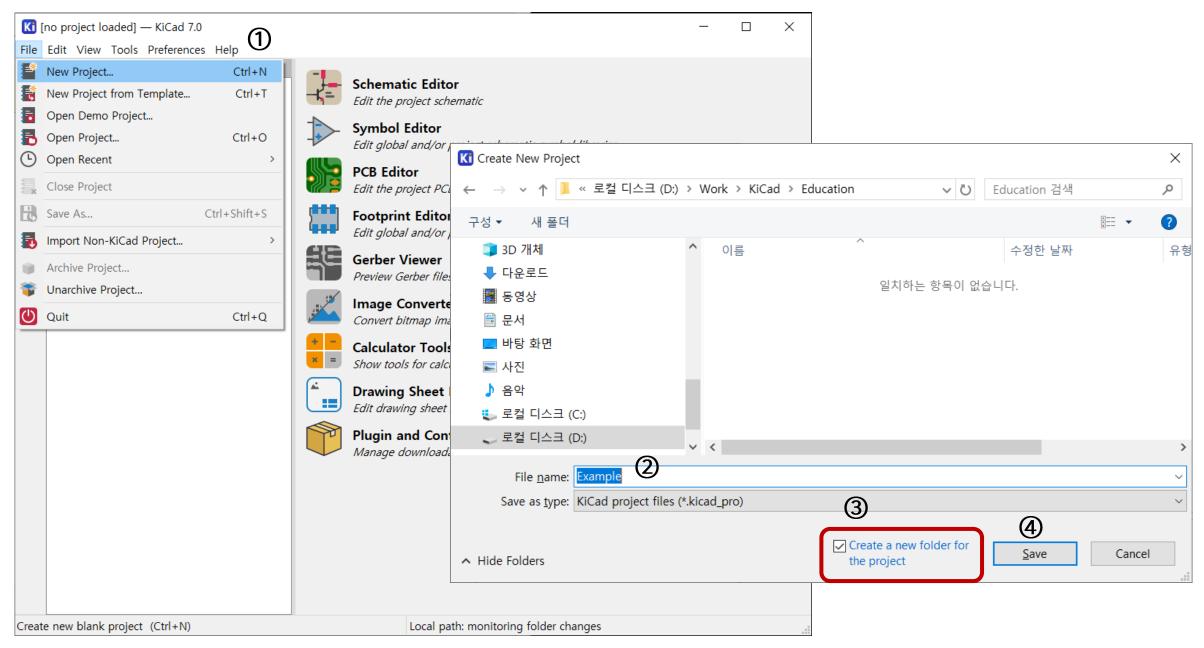
2024.04.08.

김병헌 Byeongheon Kim benkim@plecko.biz



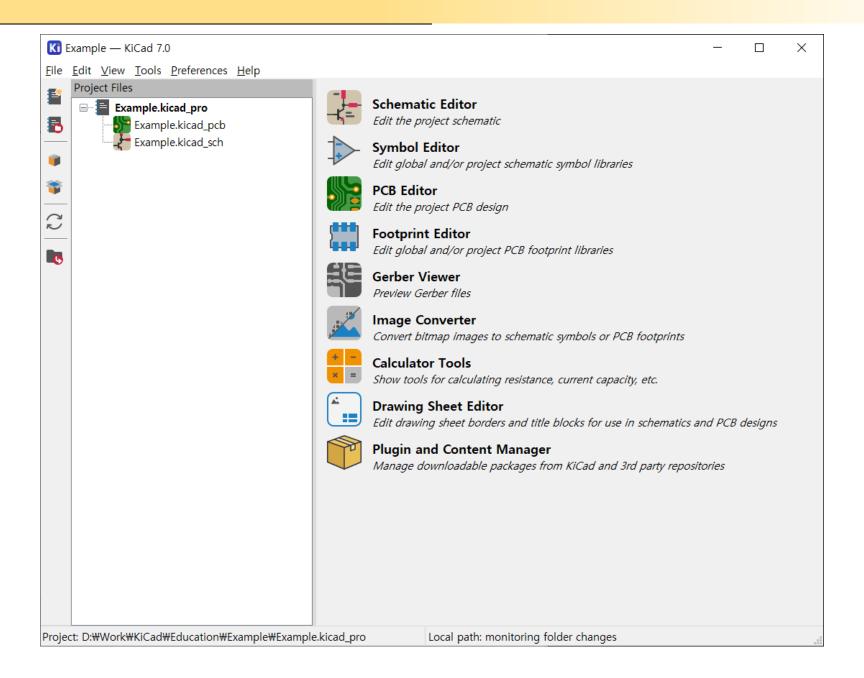
#### 프로젝트 생성





#### 프로젝트 생성



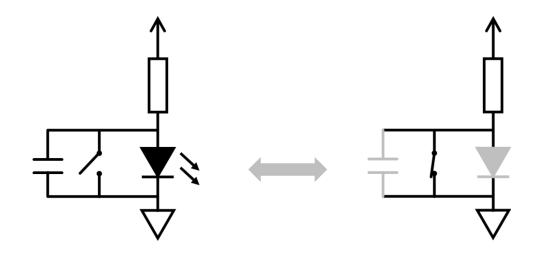


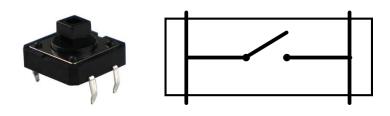
## **Design Circuit**



#### ❖ LED ON/OFF Circuit 예제

- ► LED: 2012 size, Chip LED, 20 mA, on drop 2 V
- ▶ 저항: 2012 size, 330 Ohm, 1/8 W
- ▶ 전원: 5 V 외부 전압
  - ✓ 커넥터: 2 pin connector (2.54 mm picth)
- ▶ 스위치
  - ✓ 택트 스위치
- ▶ 캐패시터: 2012 size, 1 nF, > 6V



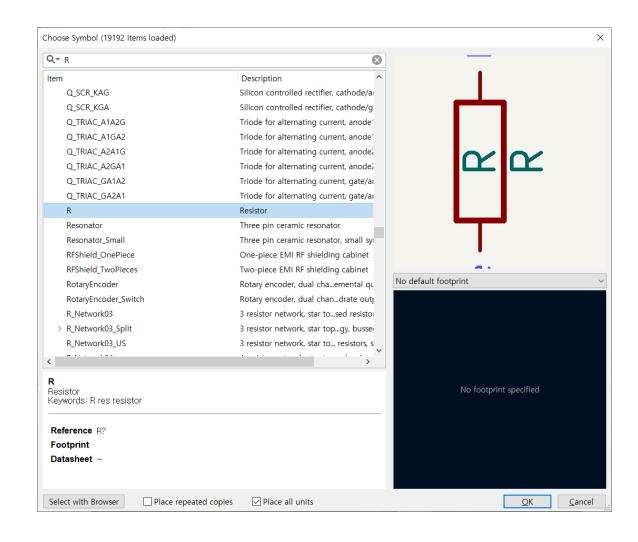


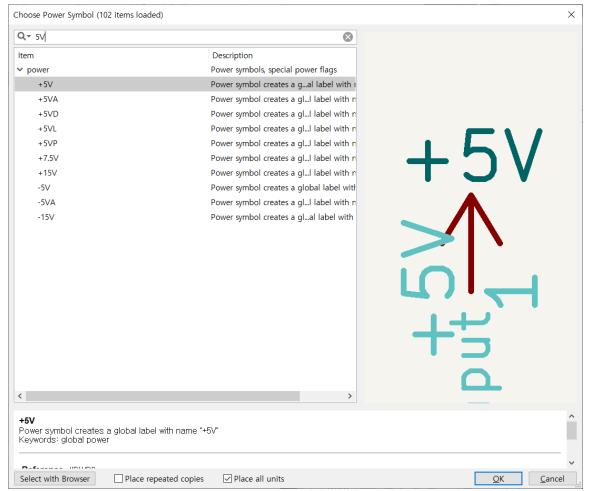


#### ❖ LED ON/OFF Circuit 예제

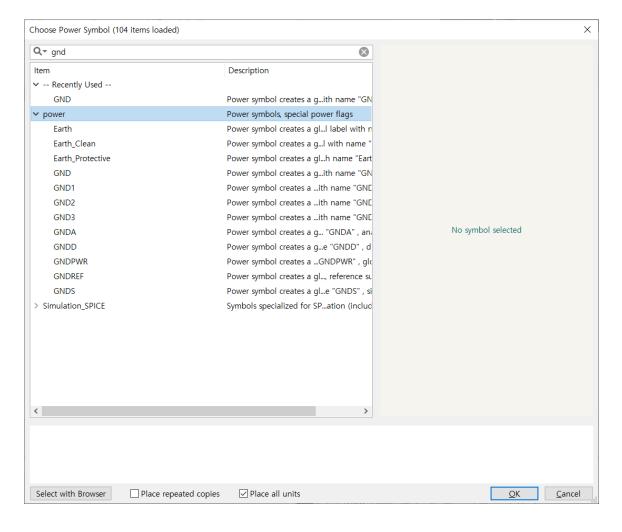
- ▶ 커넥터와 Power pin 배치,
  - ✓ 커넥터: 2 pin connector (2.54 mm picth)
- ► Ground 배치
- ▶ 저항 및 LED, 캐패시터, 스위치 배치
  - ✓ LED: 2012 size, Chip LED, 20 mA, on drop 2 V
  - ✓ 저항: 2012 size, 330 Ohm, 1/8 W
  - ✓ 캐패시터: 2012 size, 1 nF, > 6V
  - ✓ 스위치: SW\_Push 사용

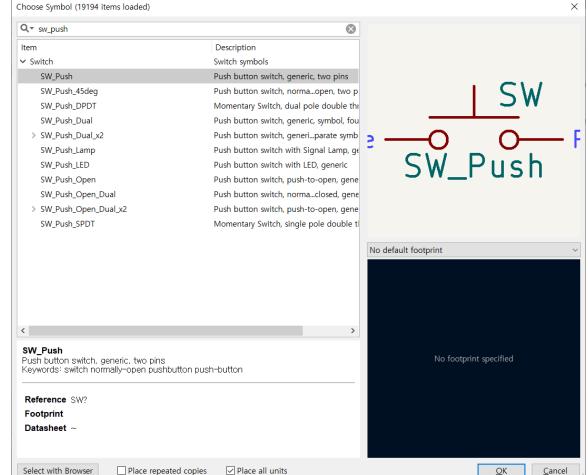




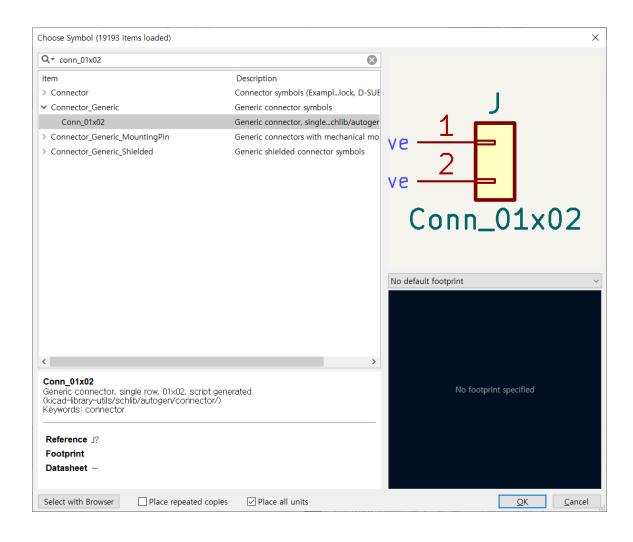


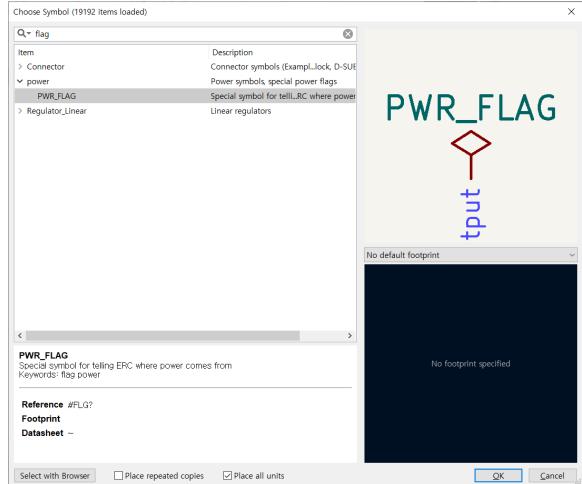




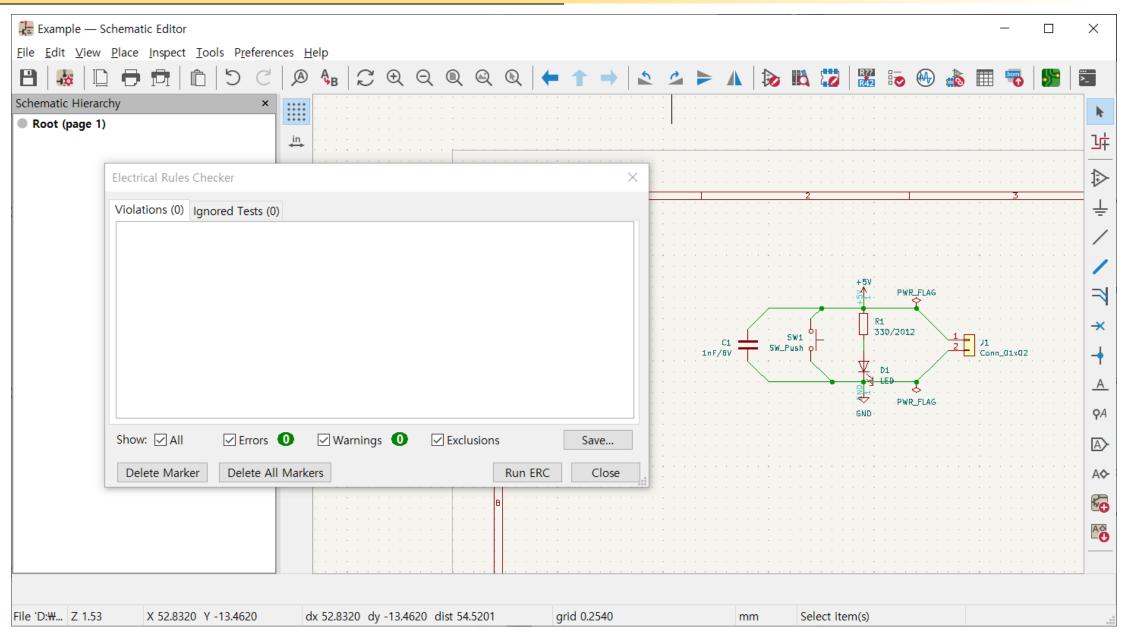




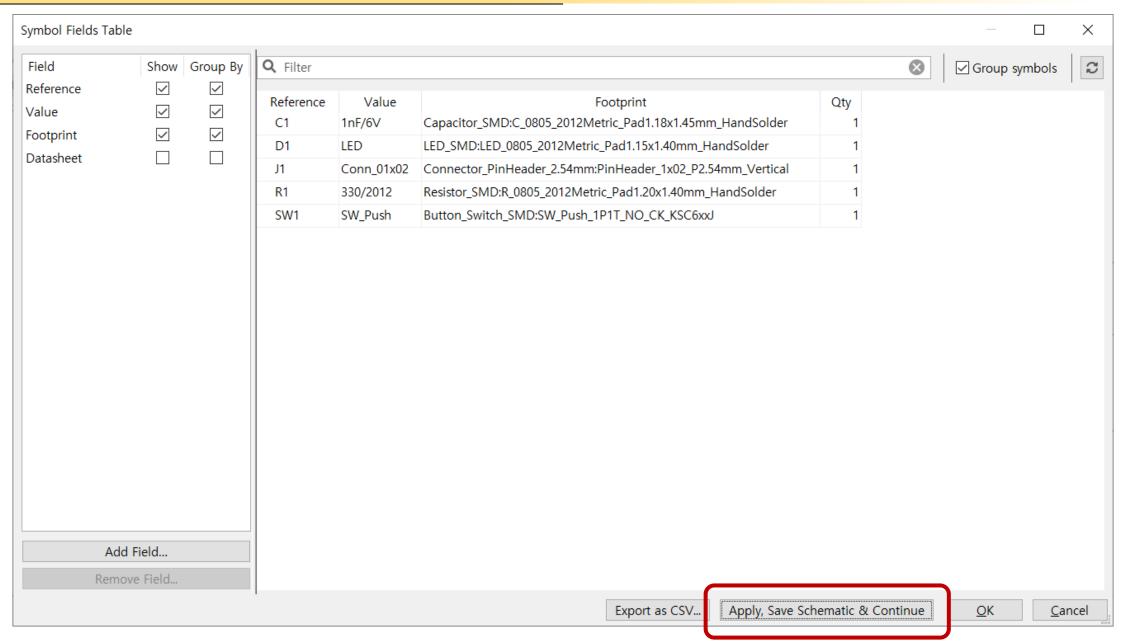




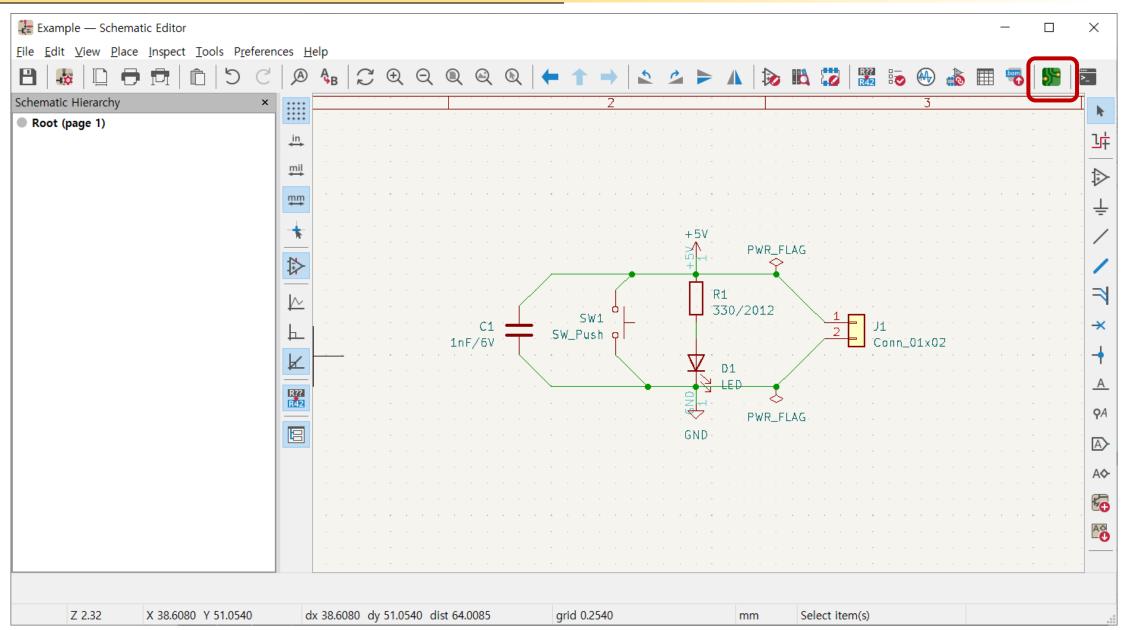




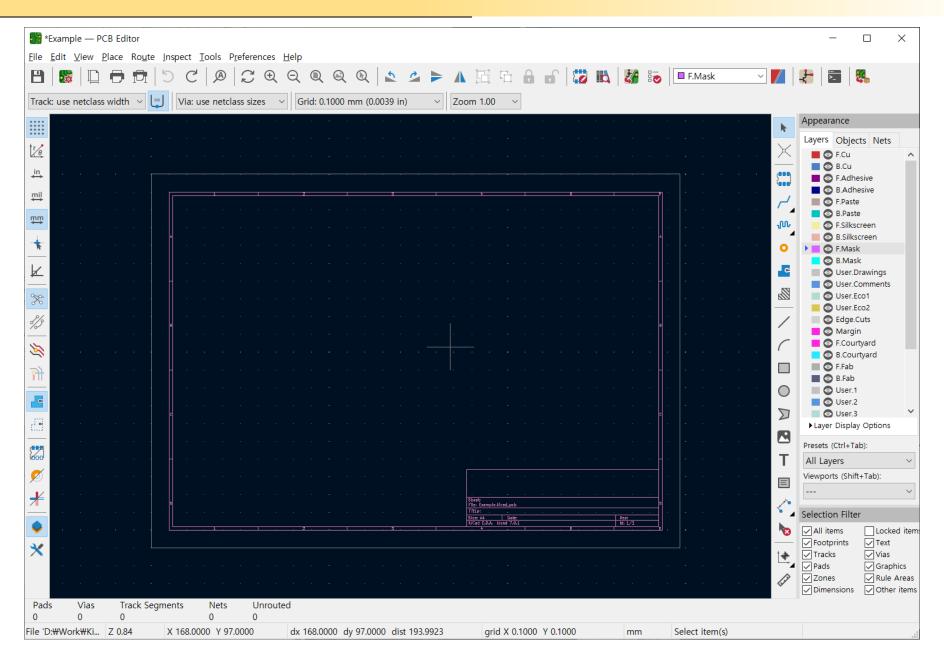






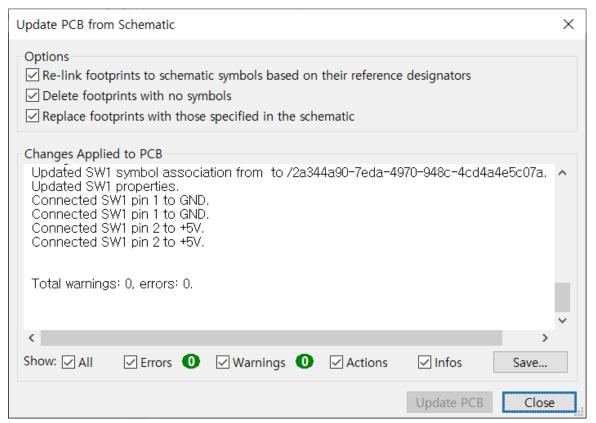




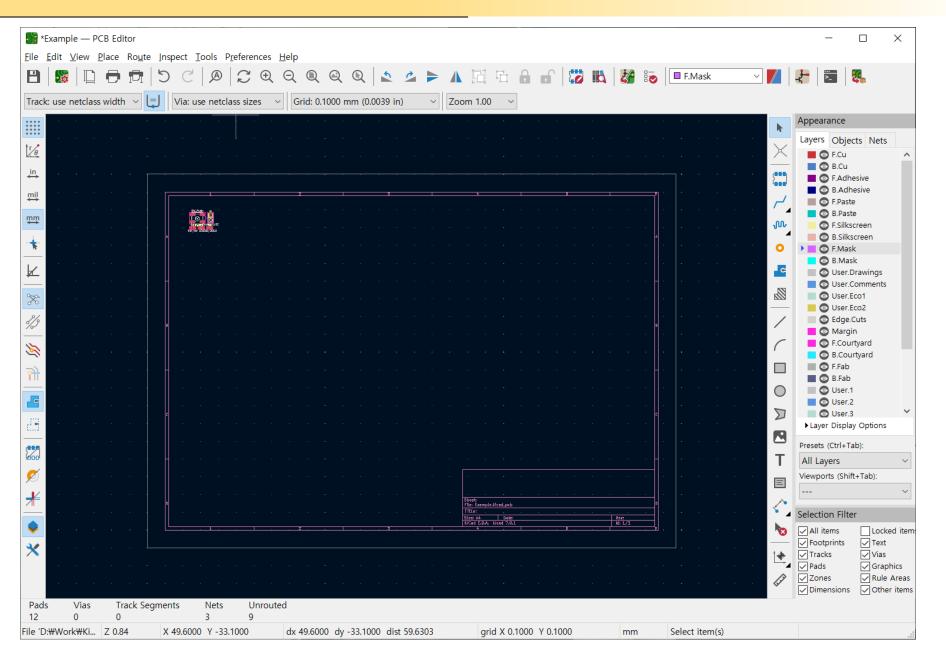






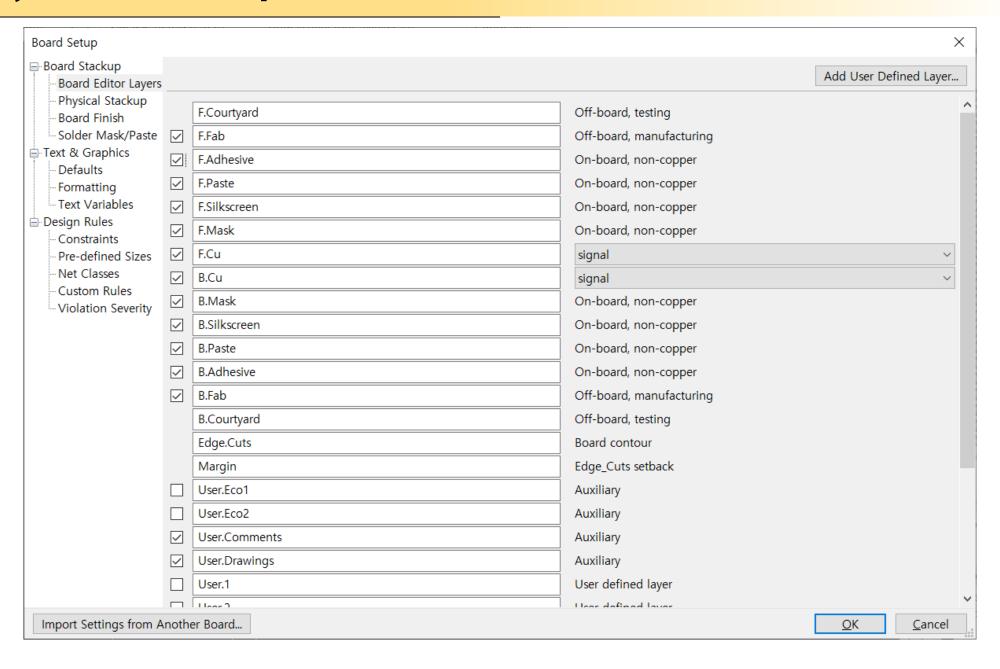






## **Board Layout: Board setup**



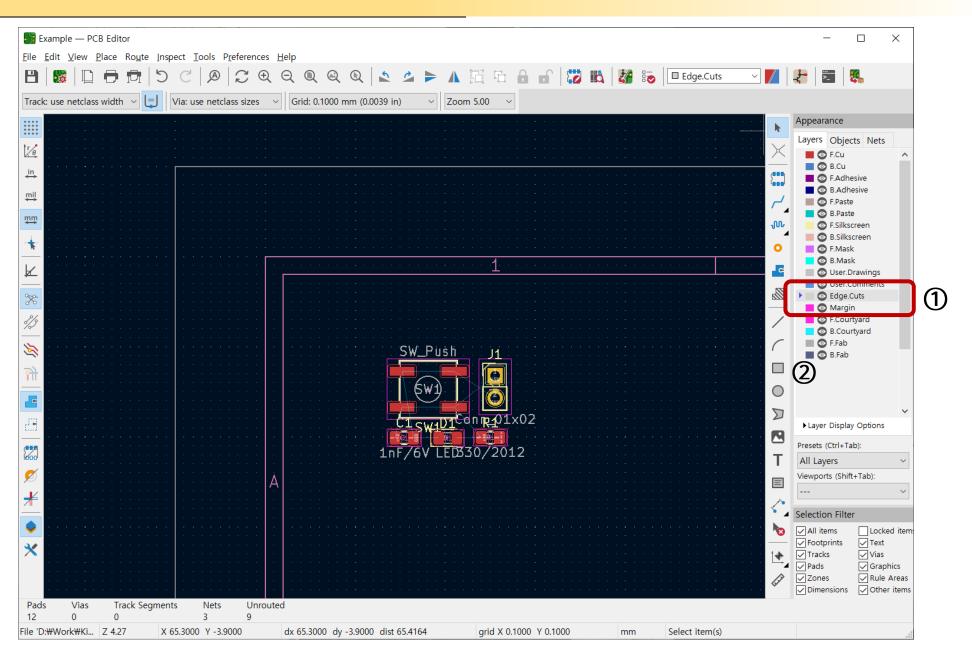


## **Board Layout: Board setup**



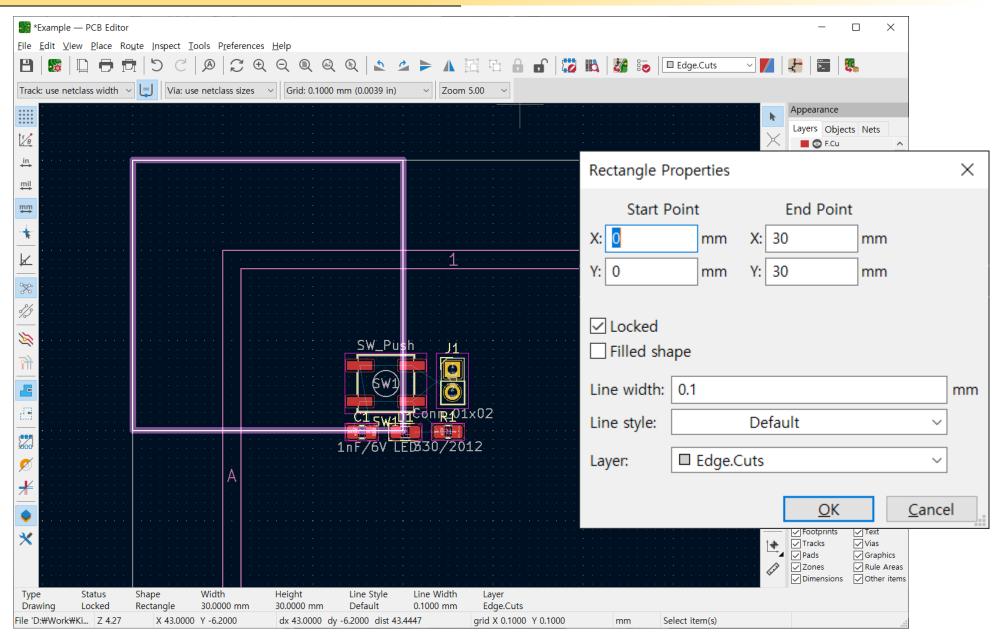
Board Setup						×
Board Setup  Board Stackup  Board Editor Layers  Physical Stackup  Board Finish  Solder Mask/Paste  Text & Graphics  Defaults  Formatting  Text Variables  Constraints  Pre-defined Sizes  Net Classes  Custom Rules  Violation Severity	Copper  Minimum clearance:  Minimum track width:  Minimum connection width:  Minimum annular width:  Minimum via diameter:  Copper to hole clearance:  Copper to edge clearance:		0 0.2 0 0.05 0.4 0.25	mm mm mm mm mm mm	Arc/circle approximated by segments  Max allowed deviation: 0.005 mm  Note: zone filling can be slow when < 0.005 mm.  Zone fill strategy  Allow fillets outside zone outline  Min thermal relief spoke count: 2  Length tuning  Include stackup height in track length calculations	×
	Holes	Minimum through hole:	0.3	mm		
		Hole to hole clearance:	0.25	mm		
	uVias					
	**	Minimum uVia diameter:	0.2	mm		
	×	Minimum uVia hole:	0.1	mm		
	Silkscreen					
		Minimum item clearance:	0	mm		
		Minimum text height:	0.8	mm		
		Minimum text thickness:	0.08	mm		
Import Settings from Another Board  OK						<u>C</u> ancel





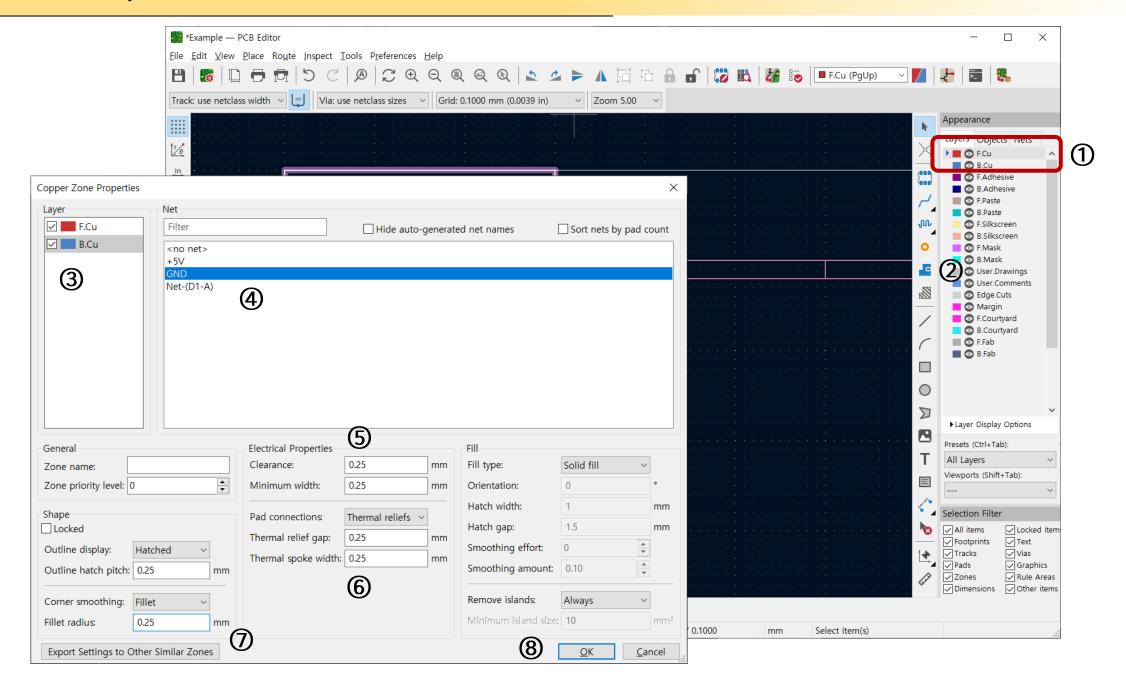
#### Board Layout: 경계선 긋기





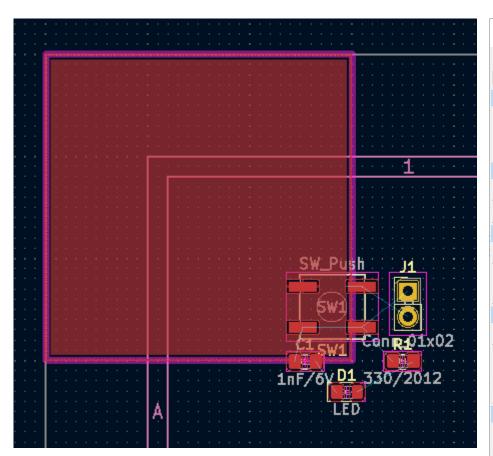
## Board Layout: Pour 그리기





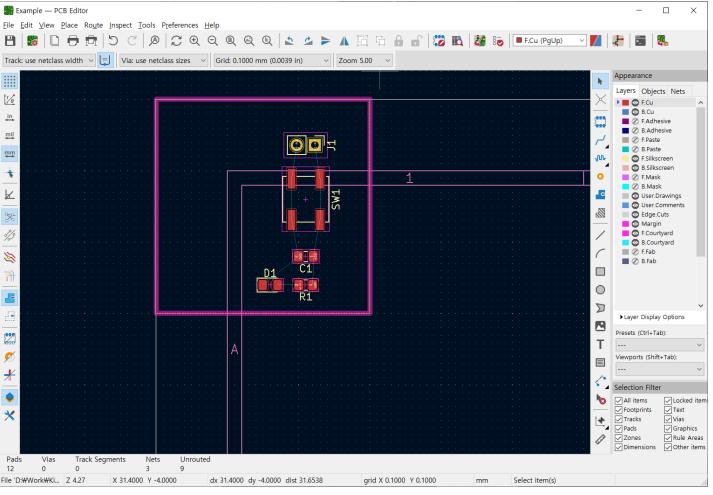


#### 단축키: B



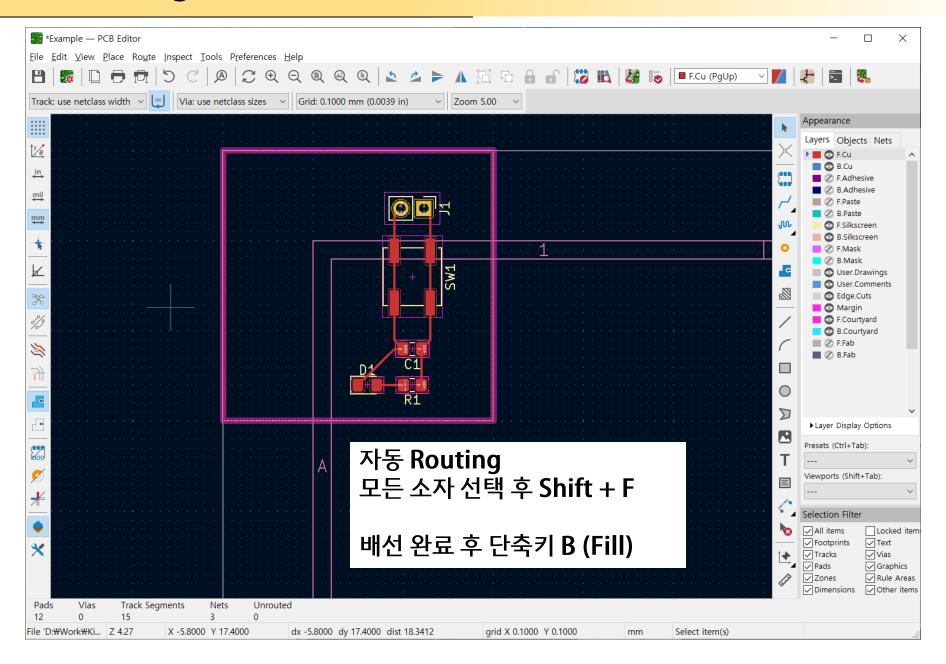
Edgecut 경계선과 똑같은 크기로 그리더라도, board setup에서 지정한 copper to edge clearance가 적용됨.

#### 단축키: Ctrl + B 후에 배치

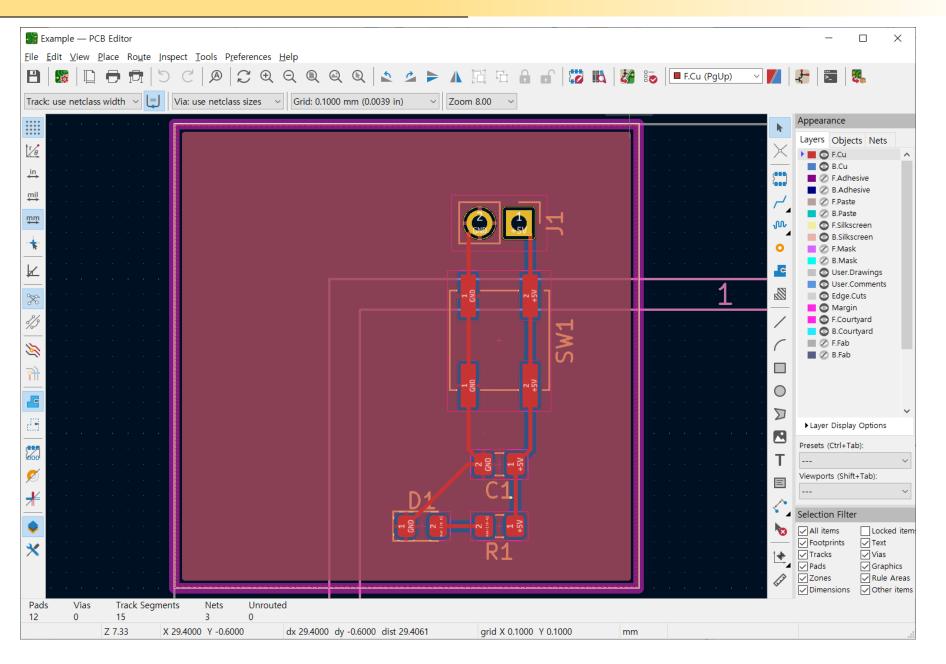


#### **Board Layout: Routing**

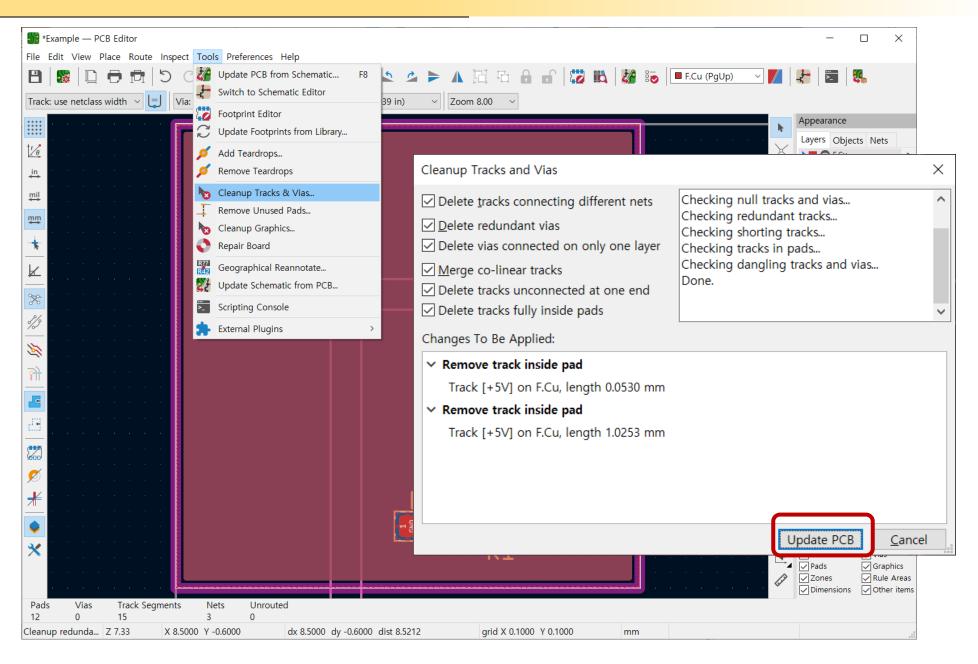




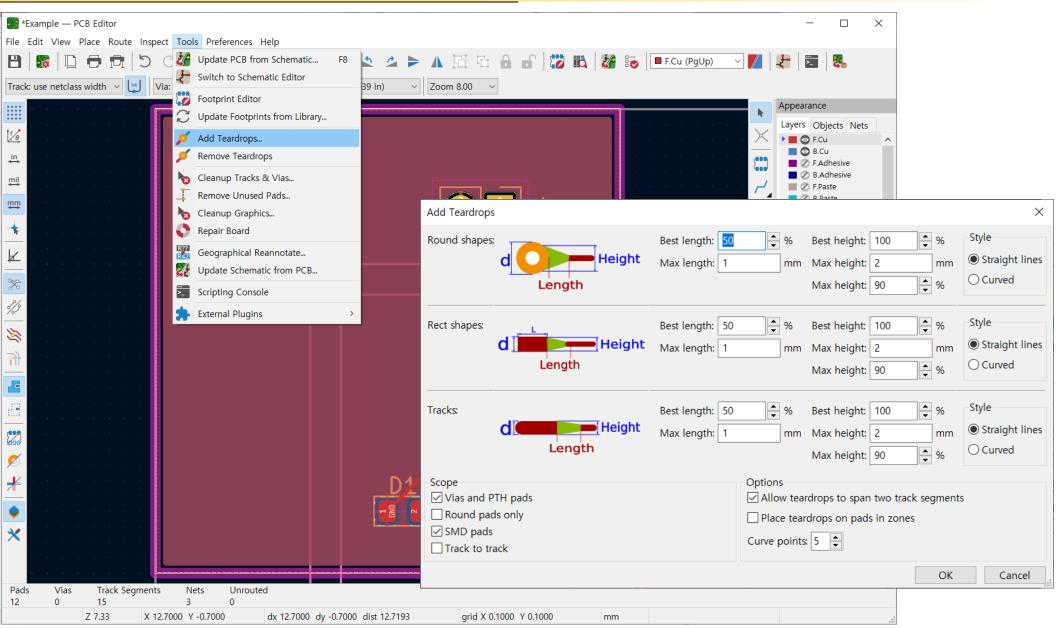




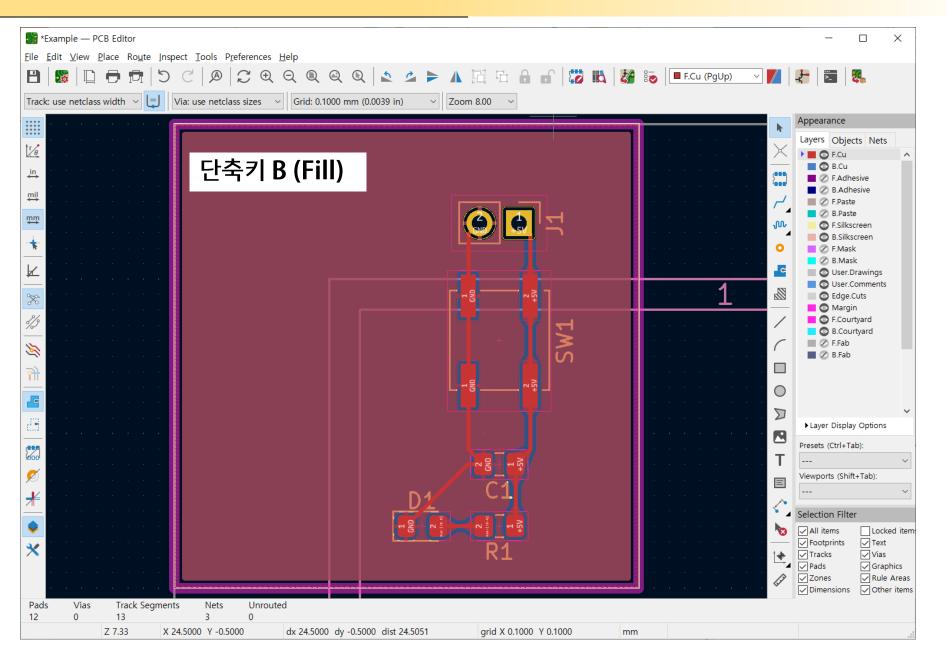




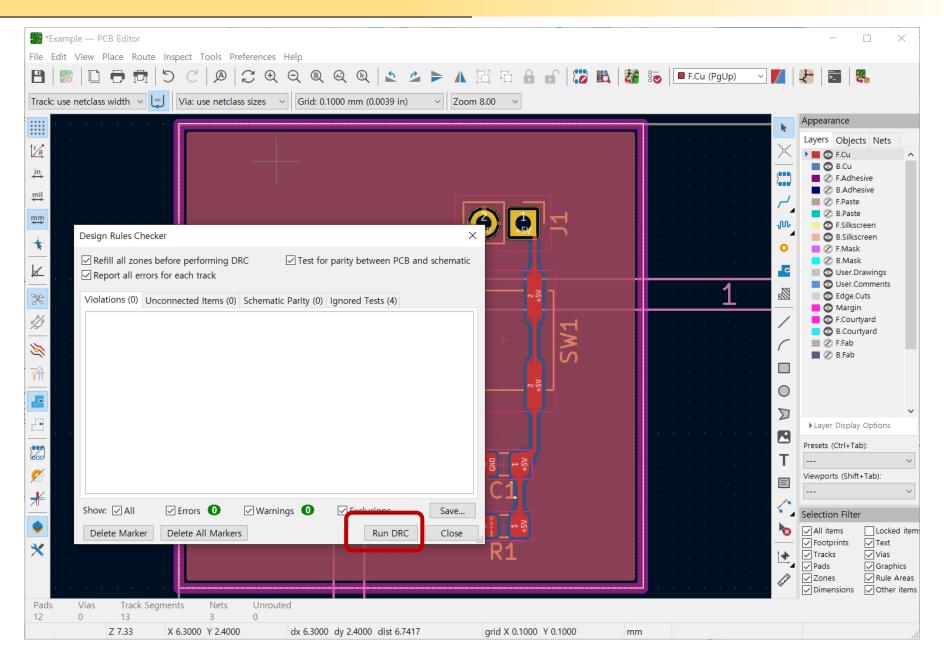






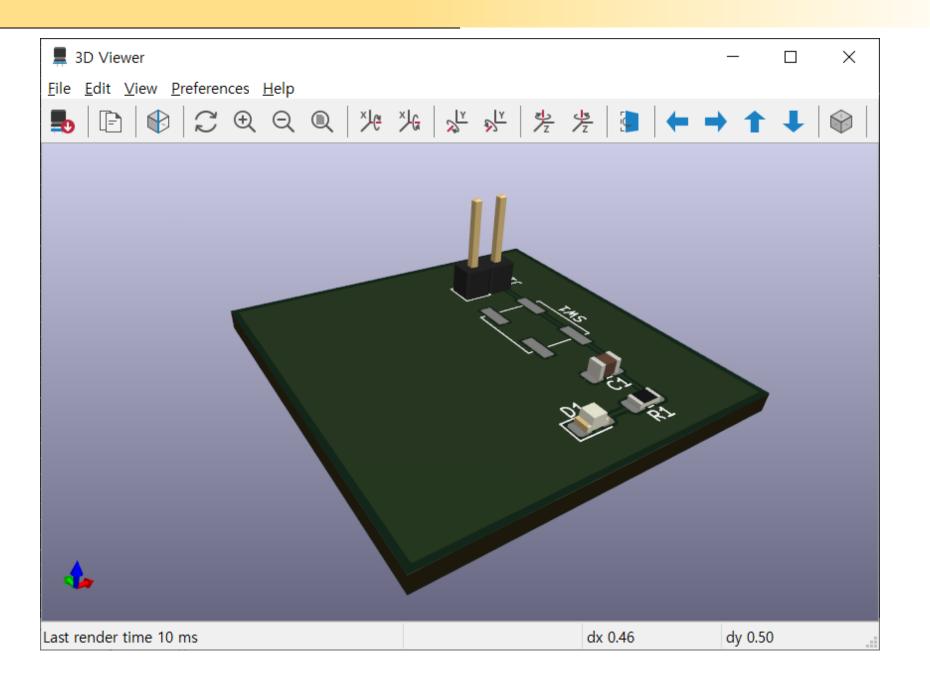






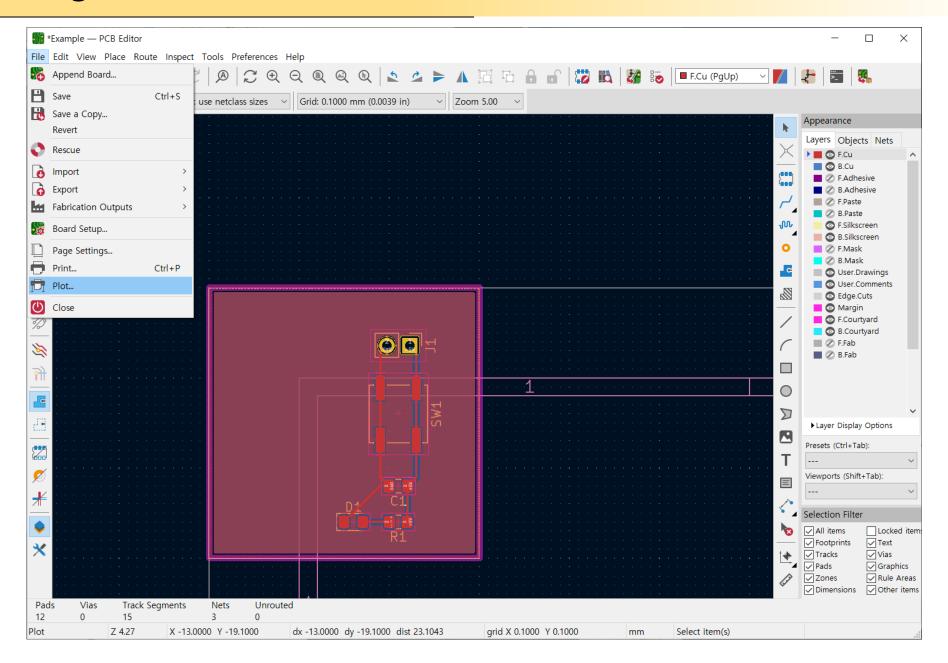
#### **3D Viewer**





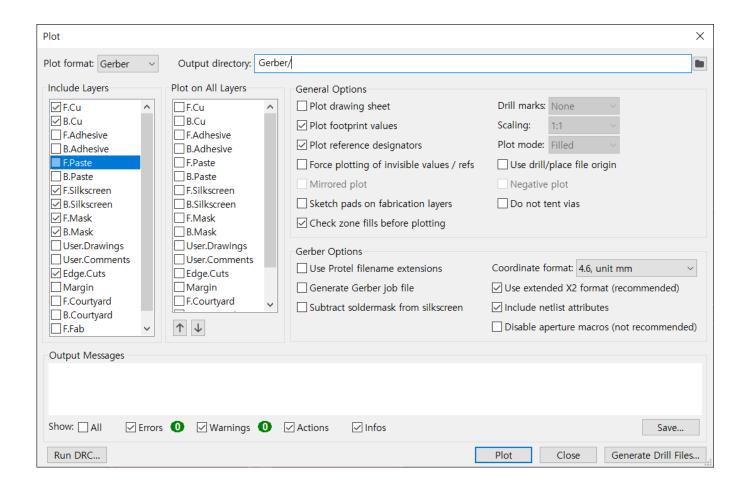
### **Post processing**

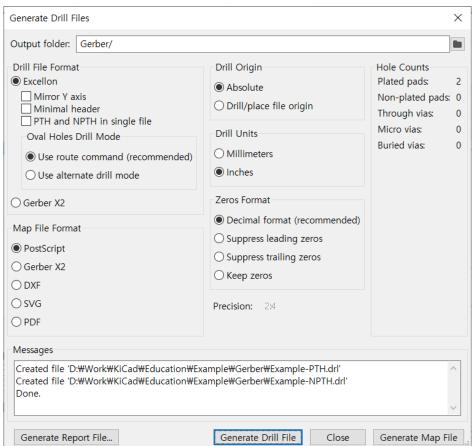




#### **Post processing**

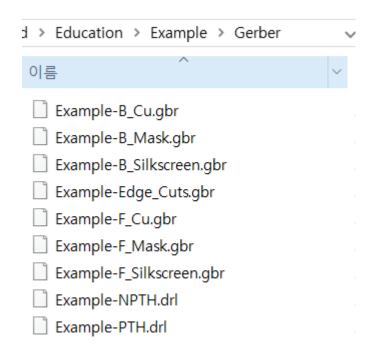


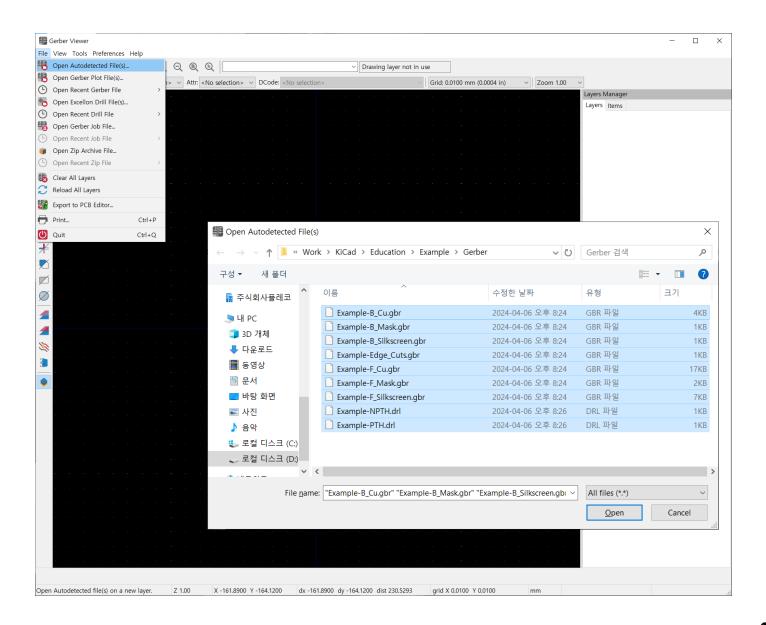




#### **Post processing**

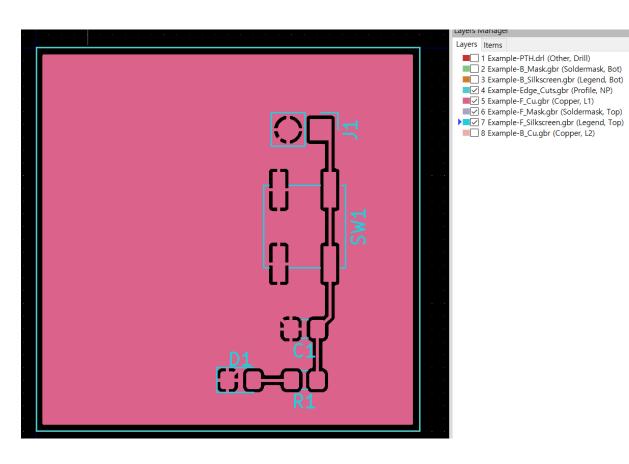


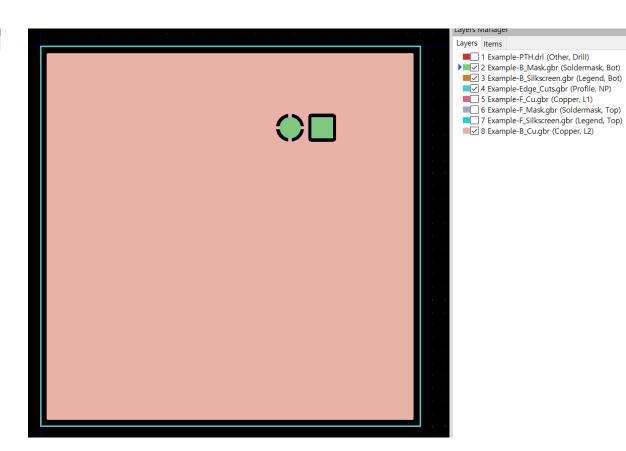




## **Post processing: Check result**







# Thank you! benkim@plecko.biz