Mandatory use of External MHz crystal for PSoC5 from PSoC Creator 2.0

Question: Is it mandatory to have an external crystal as the clock source for PSoC5 device?

Answer: It depends on the application in which PSoC5 is used. The PSoC5 device family has a tolerance of 5% on the IMO. If your PSoC5 application has strict timing requirements it is necessary to have an accurate clock source. Especially, for projects that have communication components such as UART or USB, it is mandatory to use external MHz crystal with PSoC5

**Listed below are the recommended crystal and the capacitors for PSoC5.**

CY8CKIT-050:

Y3	CRYSTAL 24.000MHZ 20PF SMD	ECS Inc	ECS-240-20-5PX-TR
C30,C31	CAP, CER, 22 pF, 50V, 5%, COG, 0603, SMD	Panasonic - ECG	ECJ-0EC1H220J

CY8CKIT-010:

	CRYSTAL, 24 MHz, 30 ppm, HC49, SMD		ECS-240-12-5PX-TR
Y2		ECS Inc	
C26,C27	CAP, CER, 12 pF, 50V, 5%, COG, 0603, SMD	Murata Electronics North America	GRM1885C1H120JA01D

The crystal and the corresponding capacitors have to be mounted as shown in the following diagram,

C1 = 22 pF
C2 = 22 Pf
XTAL = 4 to 33 MHz
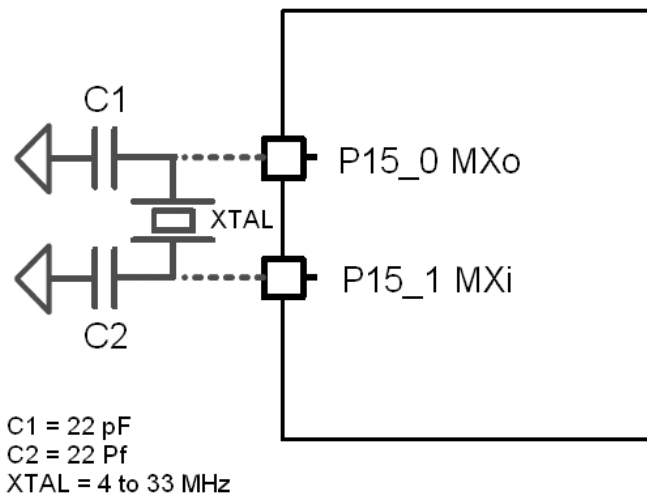
In case of **CY8CKIT-010 (PSoC CY8C55 Processor Module)** the crystal and the corresponding capacitors(C26 and C27) should be mounted as shown in the picture below:
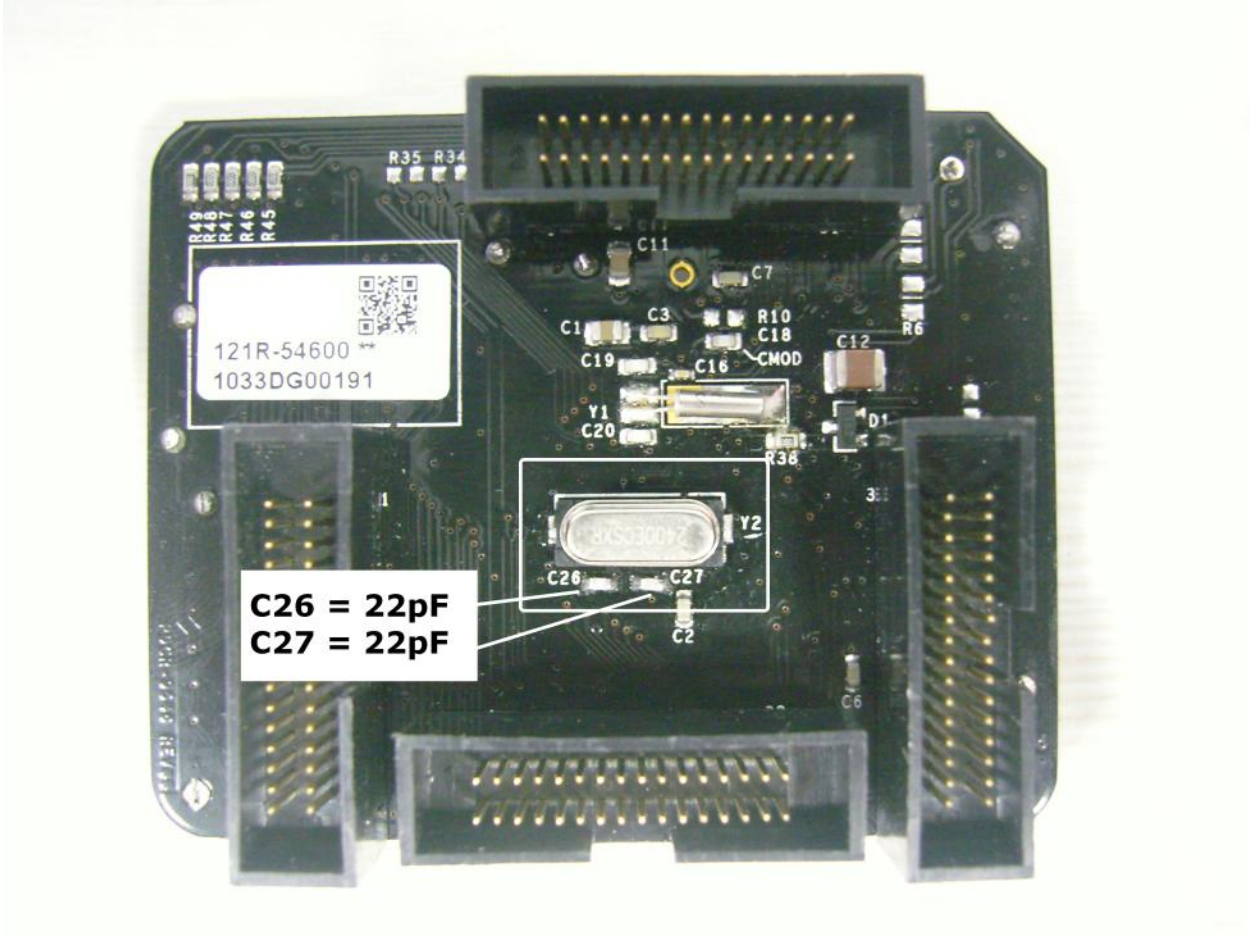
In case of **CY8CKIT-050**, the crystal and the corresponding capacitors(C30 and C31) should be mounted as shown in the picture below:
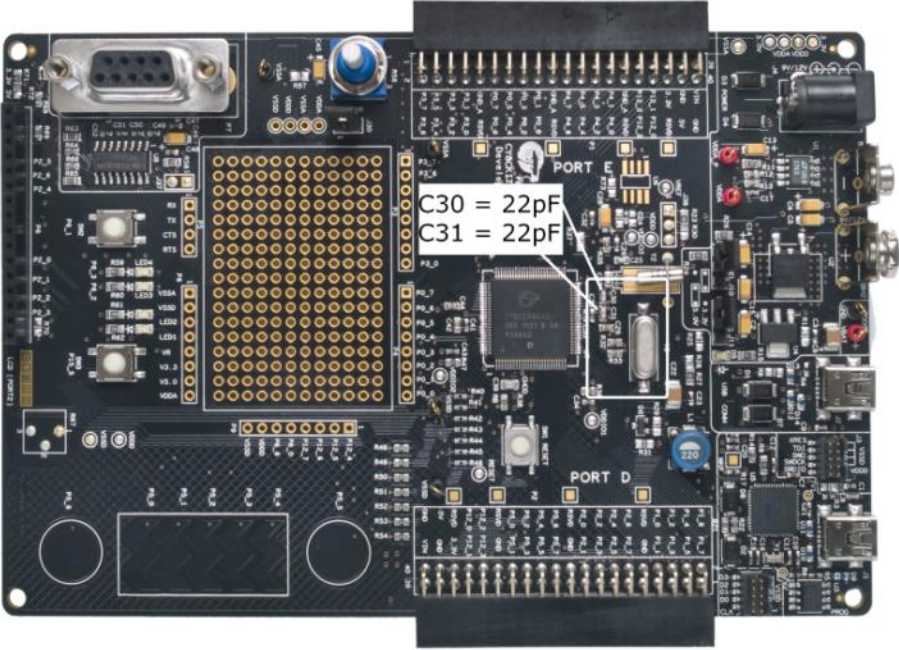
In order to use the external MHz crystal in your PSoC Creator project, the following setting needs to be done in the Design Wide resource file of the project: