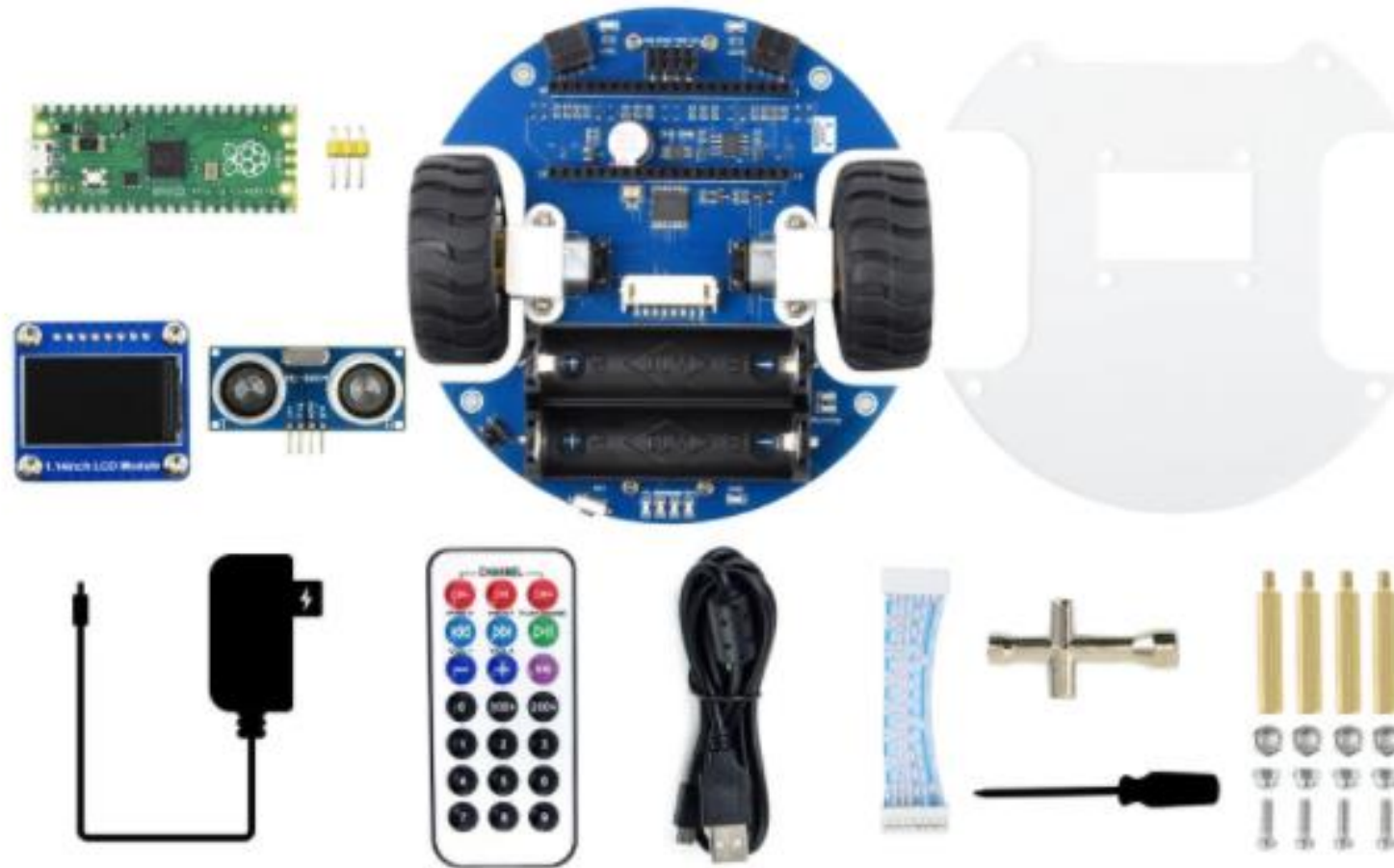


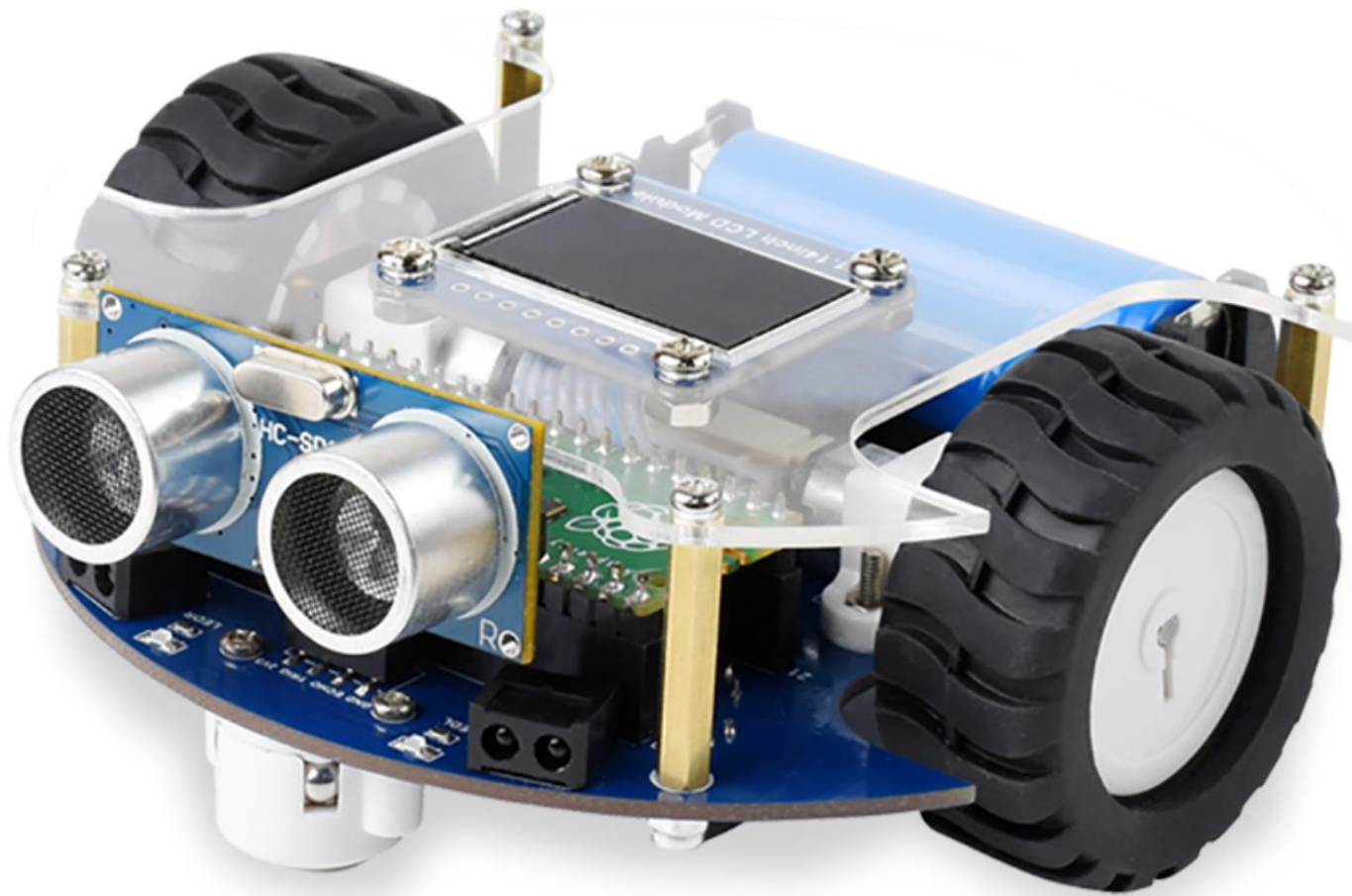
Raspberry Pi PICO

PicoGo 모바일 로봇 키트

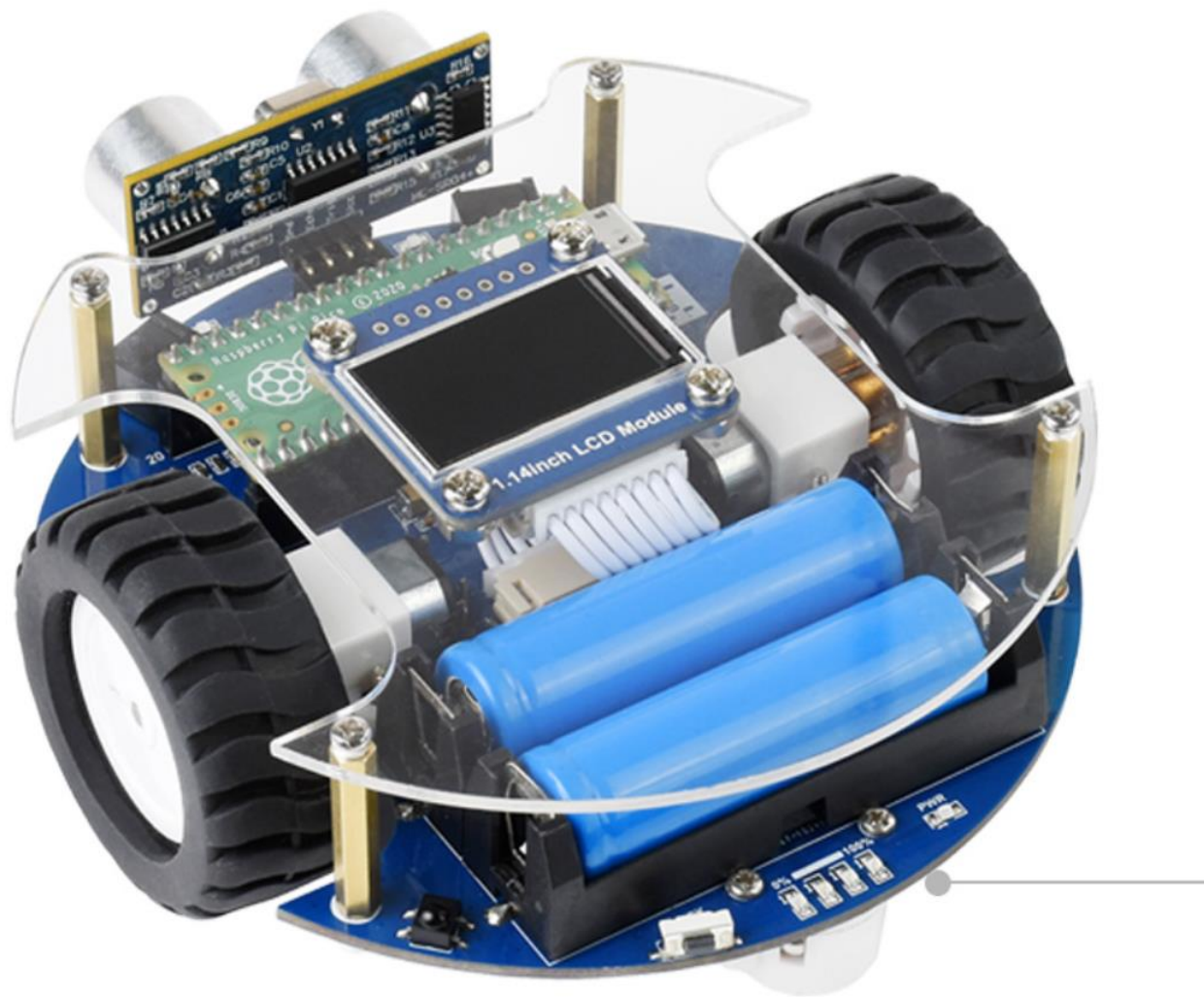
- <https://ko.aliexpress.com/item/1005003065889814.html>



PICO 를 이용한 마우스



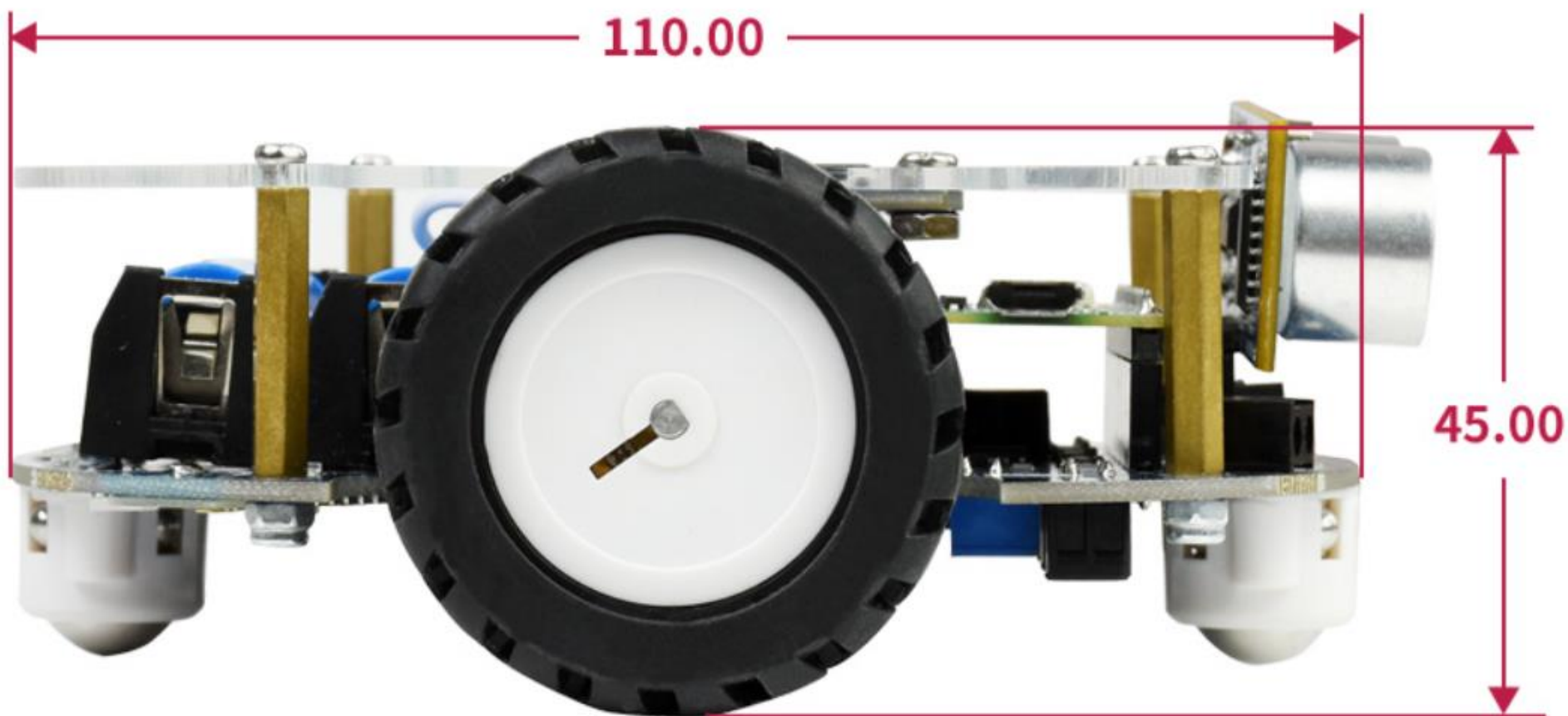
윗면



부품구성

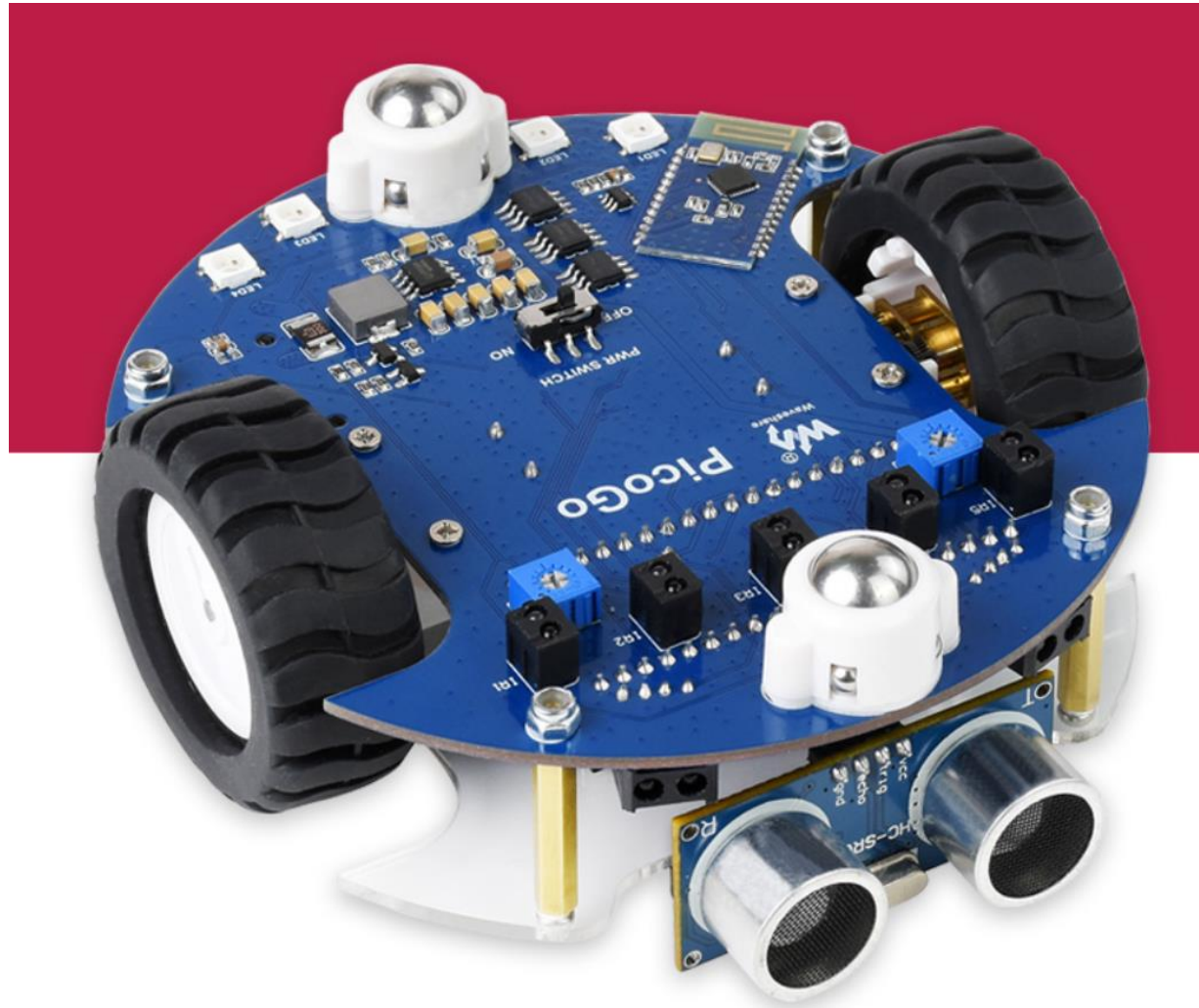


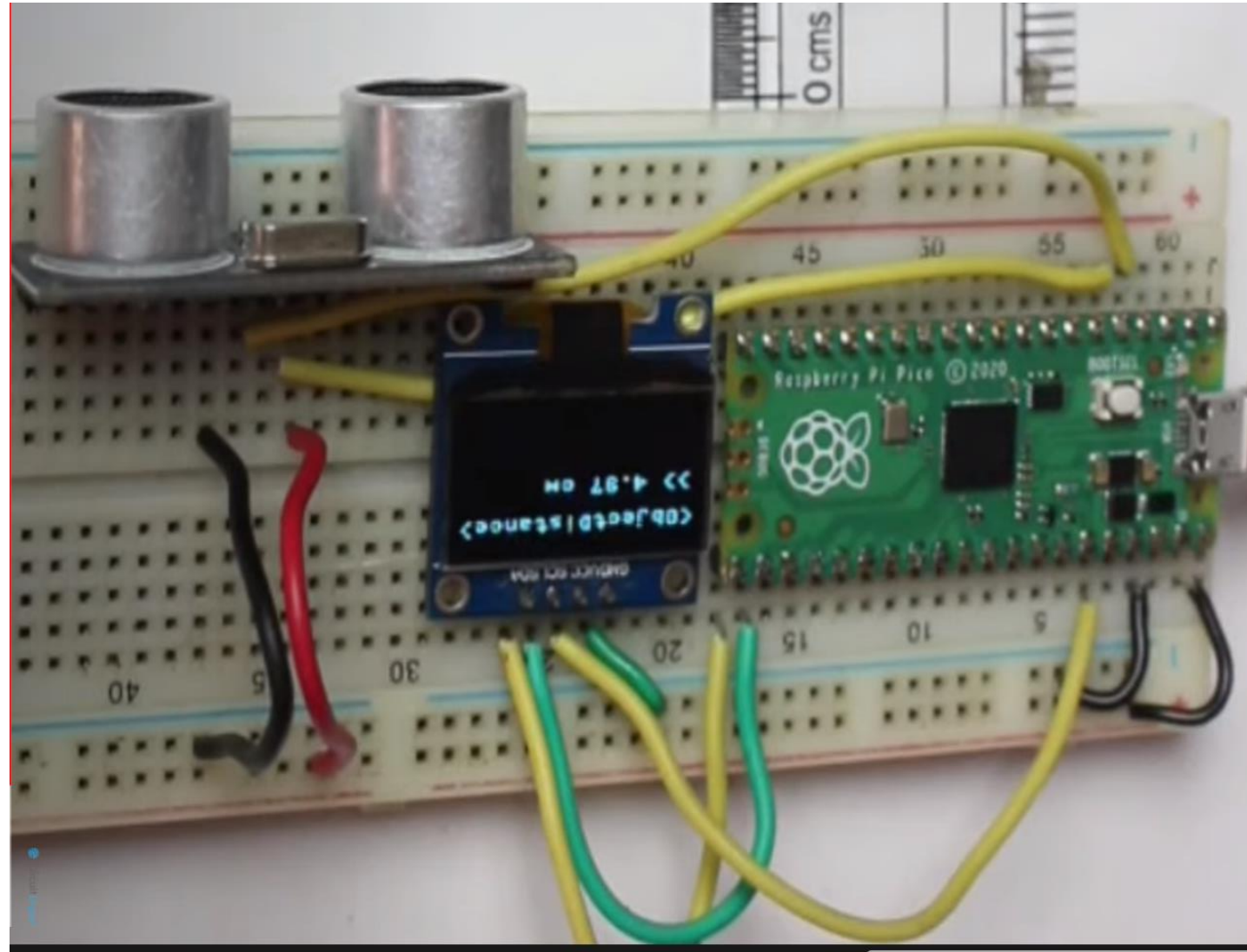


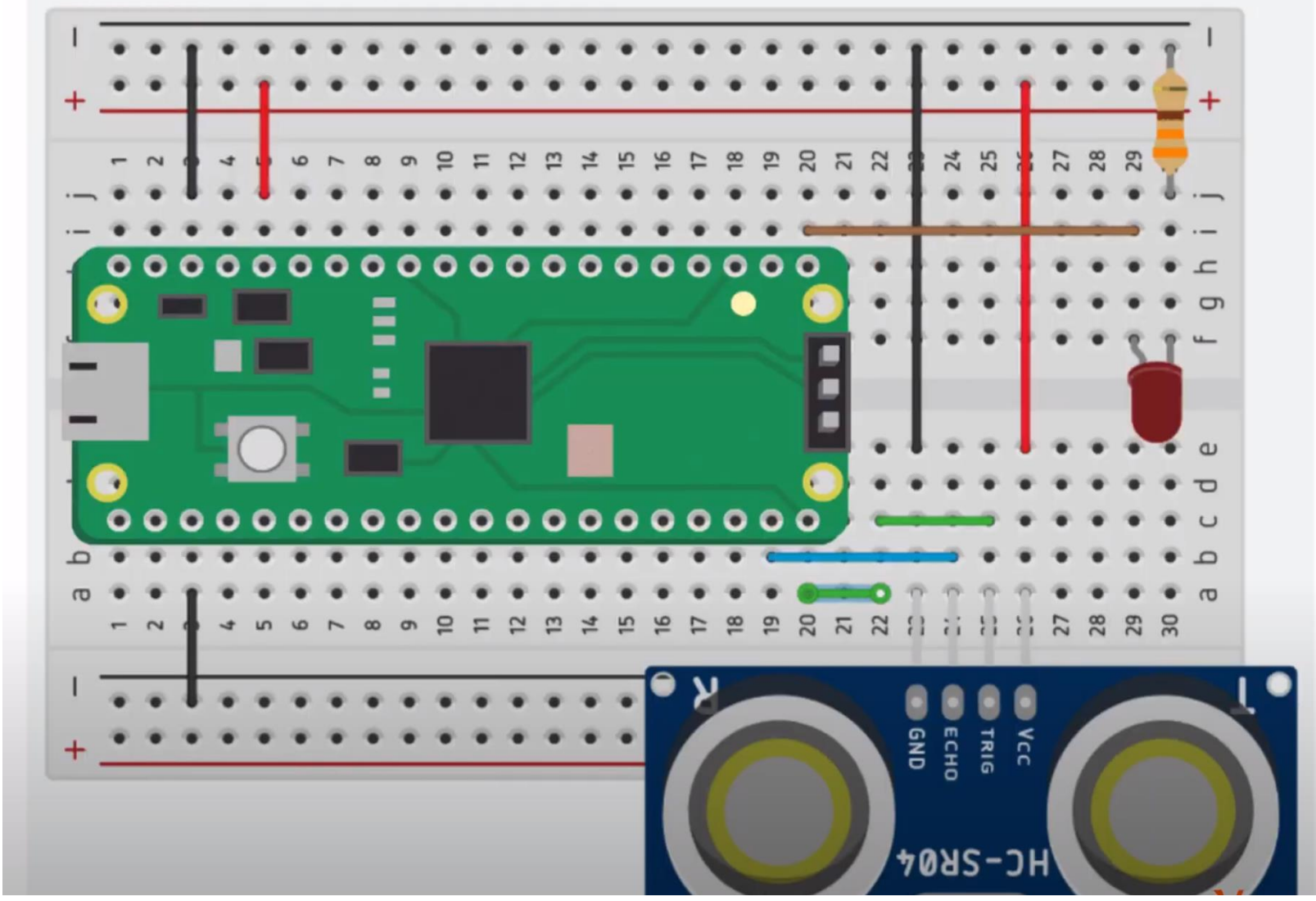


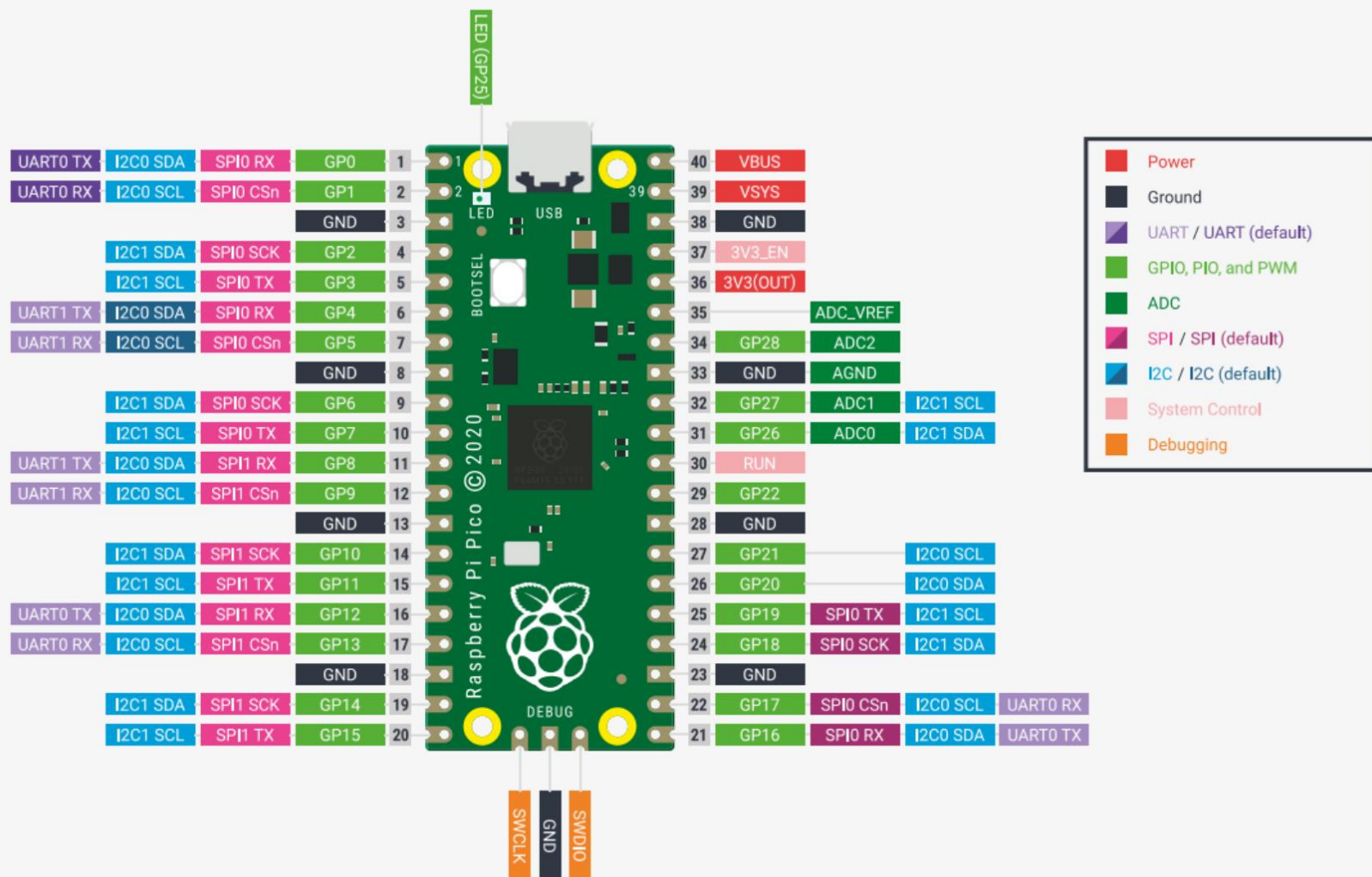
Unit:mm











Ultrasonic Sensor를 Header 4-pin 을 활용 배치

Design Rule Verification Report (29) [1] PICO.MCU.SchDoc

Components

Miscellaneous Connectors.IntLib

Search

Design Item ID	Description	Footprint
Header 24X2	Header, 24-Pin, Dual...	HDR2X24
Header 24X2H	Header, 24-Pin, Dual...	HDR2X24H
Header 25	Header, 25-Pin	HDR1X25
Header 25H	Header, 25-Pin, Right...	HDR1X25H
Header 25X2	Header, 25-Pin, Dual...	HDR2X25
Header 25X2H	Header, 25-Pin, Dual...	HDR2X25H
Header 2H	Header, 2-Pin, Right...	HDR1X2H
Header 2X2	Header, 2-Pin, Dual...	HDR2X2
Header 2X2H	Header, 2-Pin, Dual...	HDR2X2H
Header 3	Header, 3-Pin	HDR1X3
Header 30	Header, 30-Pin	HDR1X30
Header 30X2	Header, 30-Pin, Dual...	HDR2X30
Header 3H	Header, 3-Pin, Right...	HDR1X3H
Header 3X2	Header, 3-Pin, Dual...	HDR2X3
Header 3X2A	Header, 3-Pin, Dual...	HDR2X3_C
Header 3X2H	Header, 3-Pin, Dual...	HDR2X3H
Header 4	Header, 4-Pin	HDR1X4
Header 4H	Header, 4-Pin, Right...	HDR1X4H
Header 4X2	Header, 4-Pin, Dual...	HDR2X4
Header 4X2A	Header, 4-Pin, Dual...	HDR2X4_C
Header 4X2H	Header, 4-Pin, Dual...	HDR2X4H
Header 5	Header, 5-Pin	HDR1X5
Header 5H	Header, 5-Pin, Right...	HDR1X5H
Header 5X2	Header, 5-Pin, Dual...	HDR2X5
Header 5X2A	Header, 5-Pin, Dual...	HDR2X5_C
Header 5X2H	Header, 5-Pin, Dual...	HDR2X5H
Header 6	Header, 6-Pin	HDR1X6

Results: 182

Header 4

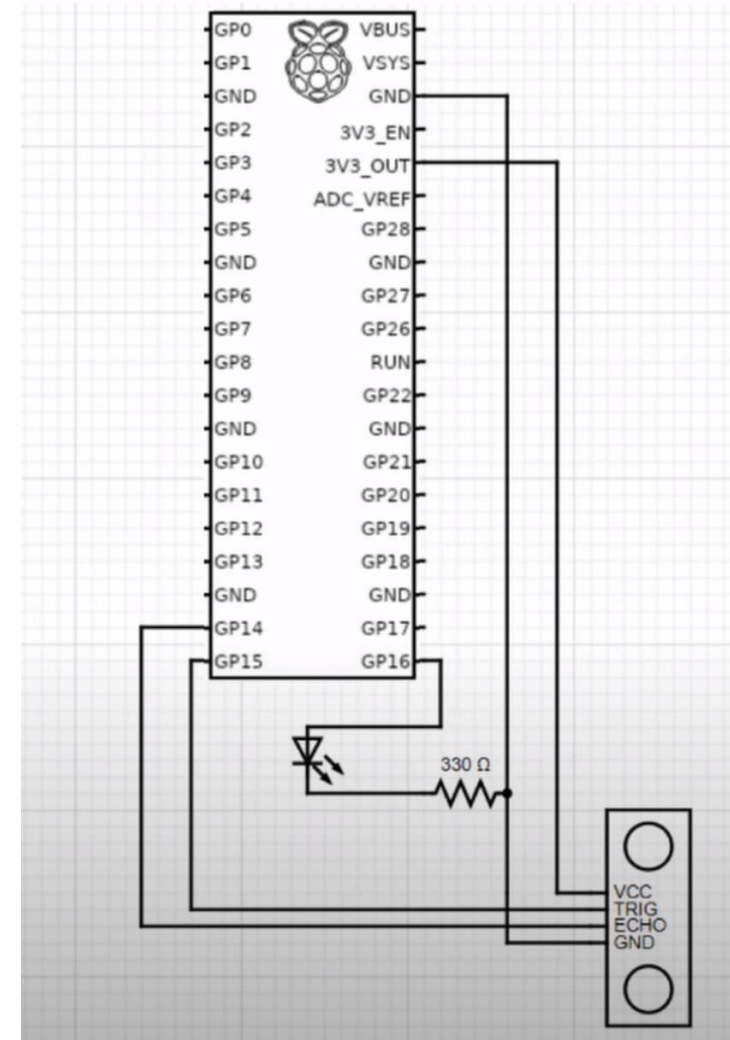
LatestRevisionDate: 17-Jul-2002
LatestRevisionNote: Re-released for DXP PL...
Pin Count: 4
Publisher: Altium Limited
[Show More](#)

Models

U?

Pin	Signal	Pin	Signal
1	GP0	40	VBUS
2	GP1	39	VSYS
3	GND	38	GND
4	GP2	37	3V3_EN
5	GP3	36	3V3_OUT
6	GP4	35	ADC_VREF
7	GP5	34	GP28
8	GND	33	GND
9	GP6	32	GP27
10	GP7	31	GP26
11	GP8	30	RUN
12	GP9	29	GP22
13	GND	28	GND
14	GP10	27	GP21
15	GP11	26	GP20
16	GP12	25	GP19
17	GP13	24	GP18
18	GND	23	GND
19	GP14	22	GP17
20	GP15	21	GP16

Pico

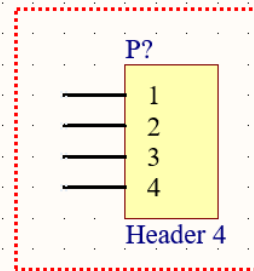


Header 4 이름을 Ultrasonic Sensor 으로 수정한다.

U?

1	GP0	VBUS	40
2	GP1	VSYS	39
3	GND	GND	38
4	GP2	3V3_EN	37
5	GP3	3V3(OUT)	36
6	GP4	ADC_VREF	35
7	GP5	GP28	34
8	GND	GND	33
9	GP6	GP27	32
10	GP7	GP26	31
11	GP8	RUN	30
12	GP9	GP22	29
13	GND	GND	28
14	GP10	GP21	27
15	GP11	GP20	26
16	GP12	GP19	25
17	GP13	GP18	24
18	GND	GND	23
19	GP14	GP17	22
20	GP15	GP16	21

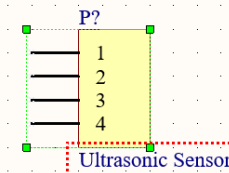
Pico



U?

1	GP0	VBUS	40
2	GP1	VSYS	39
3	GND	GND	38
4	GP2	3V3_EN	37
5	GP3	3V3(OUT)	36
6	GP4	ADC_VREF	35
7	GP5	GP28	34
8	GND	GND	33
9	GP6	GP27	32
10	GP7	GP26	31
11	GP8	RUN	30
12	GP9	GP22	29
13	GND	GND	28
14	GP10	GP21	27
15	GP11	GP20	26
16	GP12	GP19	25
17	GP13	GP18	24
18	GND	GND	23
19	GP14	GP17	22
20	GP15	GP16	21

Pico



General Pins

General

Designator: P?

Comment: Ultrasonic Sensor

Part: 1 of Parts 1

Description: Header, 4-Pin

Type: Standard

Design Item ID: Header 4

Source: Miscellaneous Conn...

Location

(X/Y): 9000mil 7400mil

Rotation: 0 Degrees

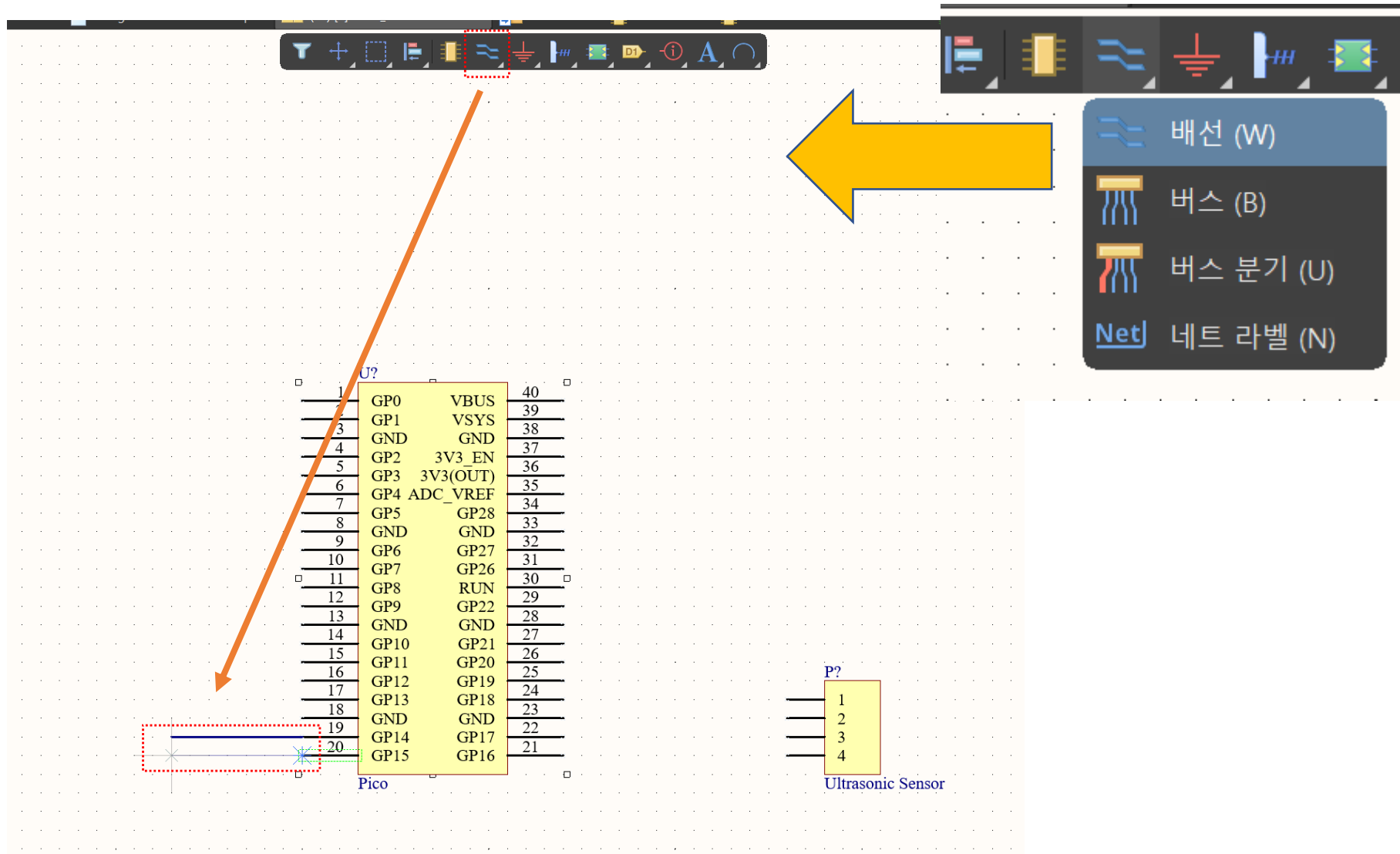
Parameters

All Footprints Models

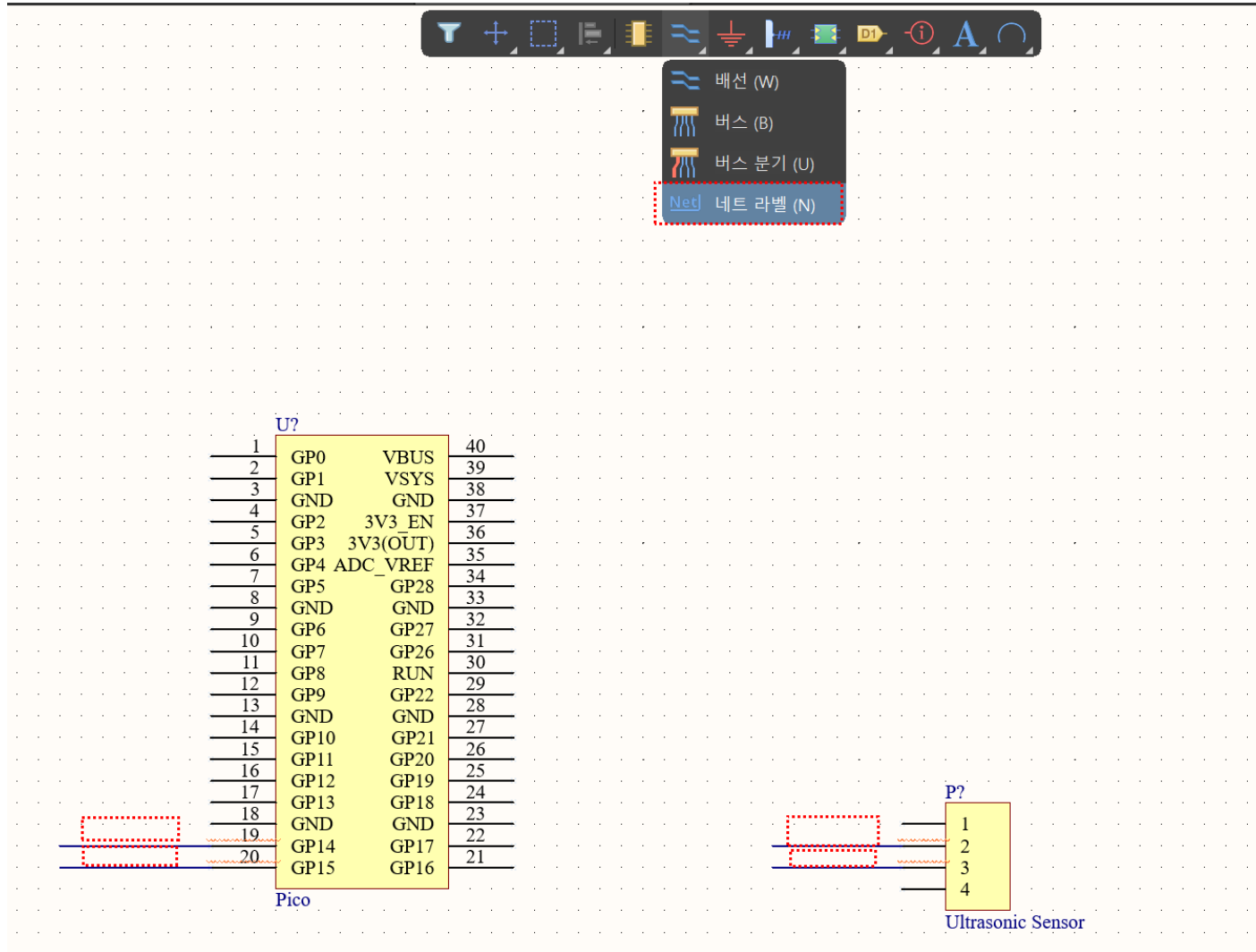
Parameters Links Rules

Name	Value
Signal Integrity	Connector
LatestRevision...	17-Jul-2002
LatestRevision...	Re-release...
Publisher	Altium Li...
No Links	
No Rules	

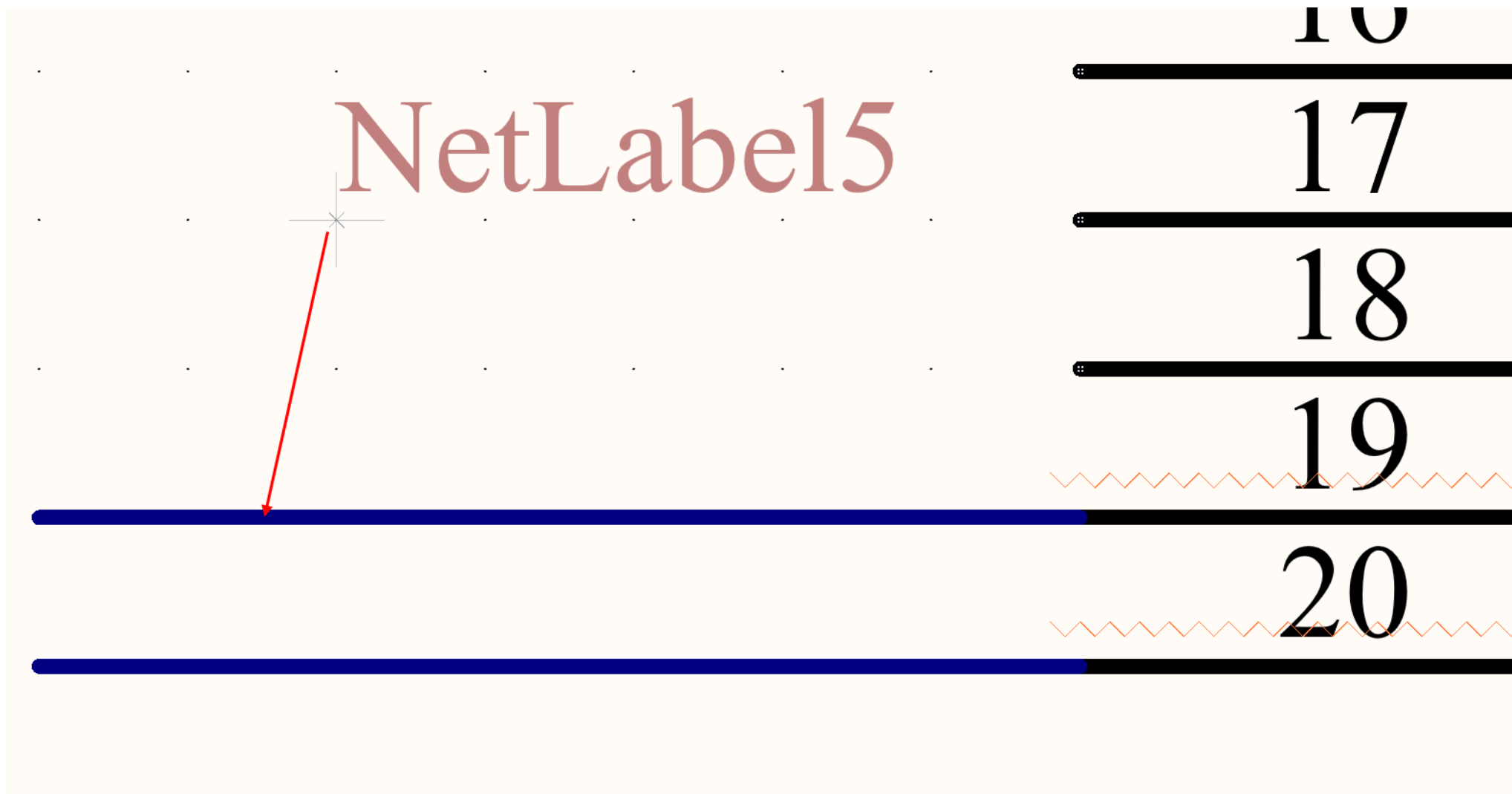
배선 배치



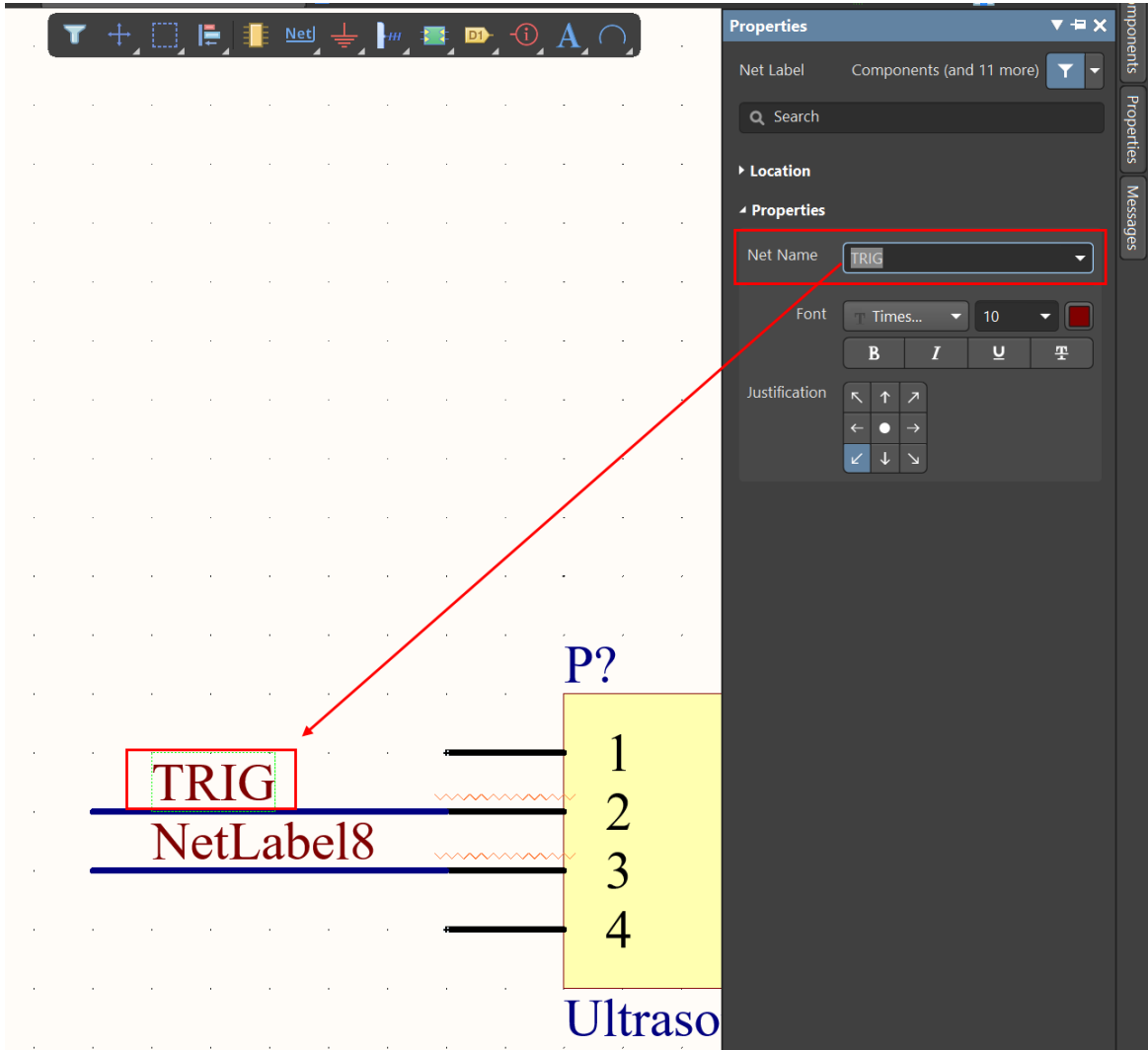
네트 라벨을 점선사각형위치에 배치한다.



네트라벨 + 그림이 화살표가 가리키는 라인에 위치하도록 배치한다.



Ultrasonic Sensor의 네트 라벨을 클릭하여 Net Name을 입력한다.



PICO 20 반핀의 네트 라벨을 클릭하여 TRIG 이름을 입력한다.

The screenshot displays the PICO MCU editor interface. On the left, a pin configuration table lists pins 1 through 20. A yellow highlight covers the pins from 2 to 19. At the bottom left, two net labels, 'NetLabel5' and 'NetLabel6', are shown. 'NetLabel6' is highlighted with a red box, and a red arrow points from it to the 'Net Name' field in the 'Properties' panel on the right. The 'Properties' panel shows the 'Net Name' set to 'TRIG'. Below the pin configuration table, the word 'Pico' is written in blue.

Pin	Function	Value
1	GP0	VSYS
2	GP1	VSYS
3	GND	GND
4	GP2	3V3_EN
5	GP3	3V3(OUT)
6	GP4	ADC_VREF
7	GP5	GP28
8	GND	GND
9	GP6	GP27
10	GP7	GP26
11	GP8	RUN
12	GP9	GP22
13	GND	GND
14	GP10	GP21
15	GP11	GP20
16	GP12	GP19
17	GP13	GP18
18	GND	GND
19	GP14	GP17
20	GP15	GP16

NetLabel5
NetLabel6

Pico

Properties

Net Label Components (and 11 more)

Search

Location

Properties

Net Name TRIG

Font Times... 10

Justification

19번핀의 네트라벨을 ECHO 이름으로 입력한다.

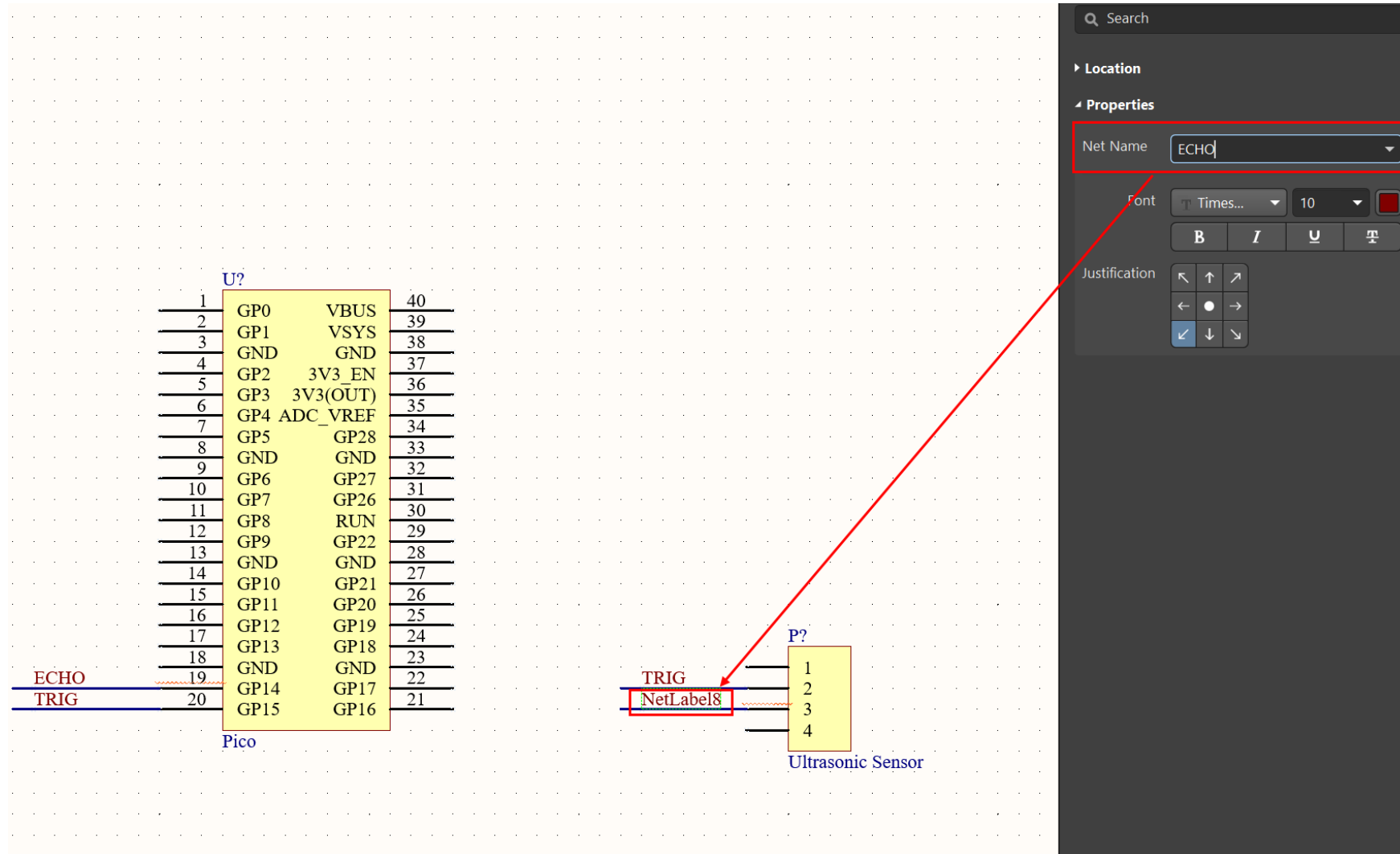
The image shows a PCB design tool interface. On the left, a pin list is displayed with 20 pins. Pin 19 is highlighted with a red box labeled 'NetLabel5'. The pin list is as follows:

Pin	Signal	Signal	Signal
1	GP1	VSYS	39
2	GND	GND	38
3	GP2	3V3_EN	37
4	GP3	3V3(OUT)	36
5	GP4	ADC_VREF	35
6	GP5	GP28	34
7	GND	GND	33
8	GP6	GP27	32
9	GP7	GP26	31
10	GP8	RUN	30
11	GP9	GP22	29
12	GND	GND	28
13	GP10	GP21	27
14	GP11	GP20	26
15	GP12	GP19	25
16	GP13	GP18	24
17	GND	GND	23
18	GP14	GP17	22
19	GP15	GP16	21

On the right, the 'Properties' panel is shown. The 'Net Name' dropdown is highlighted with a red box and contains the text 'ECHO'. A red arrow points from the 'NetLabel5' box in the pin list to the 'ECHO' box in the properties panel.

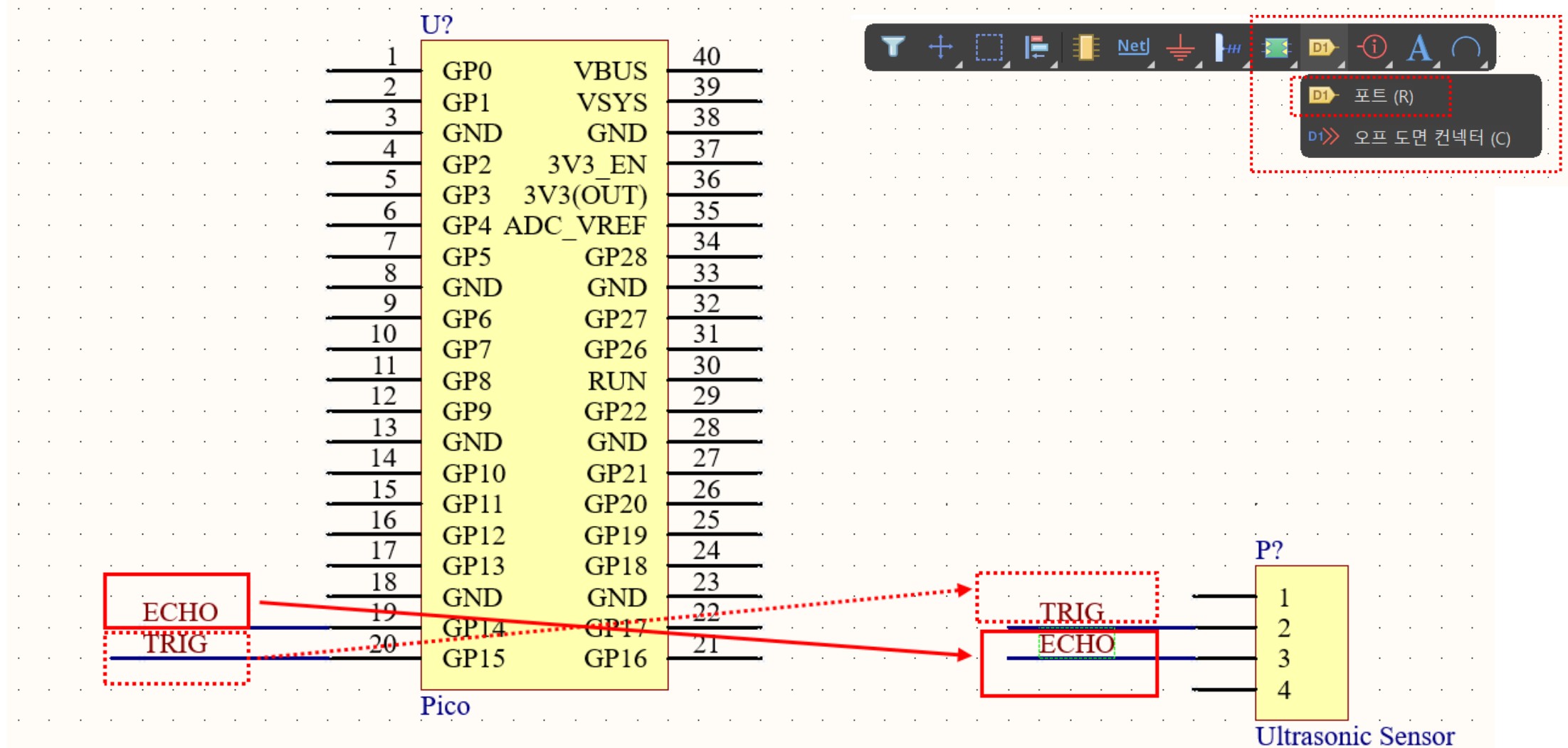
Below the pin list, the word 'Pico' is written in blue.

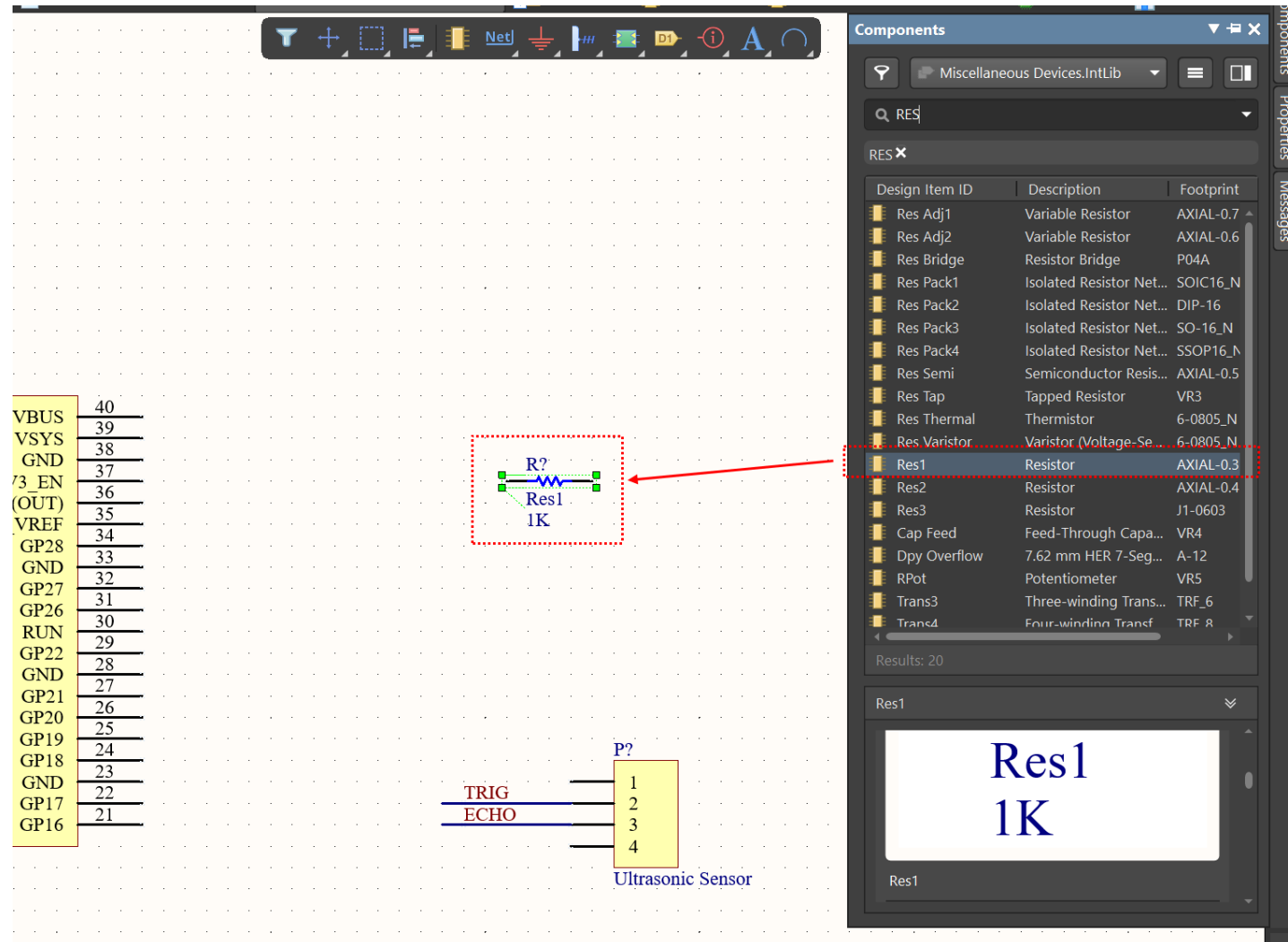
Ultrasonic Sensor 3번핀 네트 라벨 이름을 ECHO로 입력한다.



네트라벨 이름이 시트 내에서 이름이 같으면 네트가 연결된다.

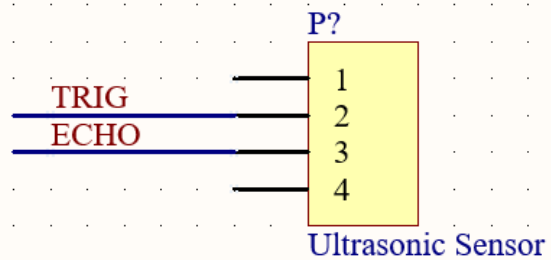
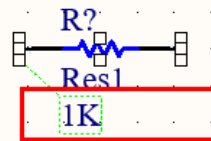
- 시트가 다를 경우에는 네트 라벨을 사용하지 않고 포트를 사용한다.





330옴을 입력한다.

BUS	40
'SYS	39
GND	38
EN	37
OUT)	36
REF	35
GP28	34
GND	33
GP27	32
GP26	31
RUN	30
GP22	29
GND	28
GP21	27
GP20	26
GP19	25
GP18	24
GND	23
GP17	22
GP16	21



Component R?

Name	Value
Value	1K

☒ Autoposition
☐ Lock Parameter
☒ Allow Synchronizat

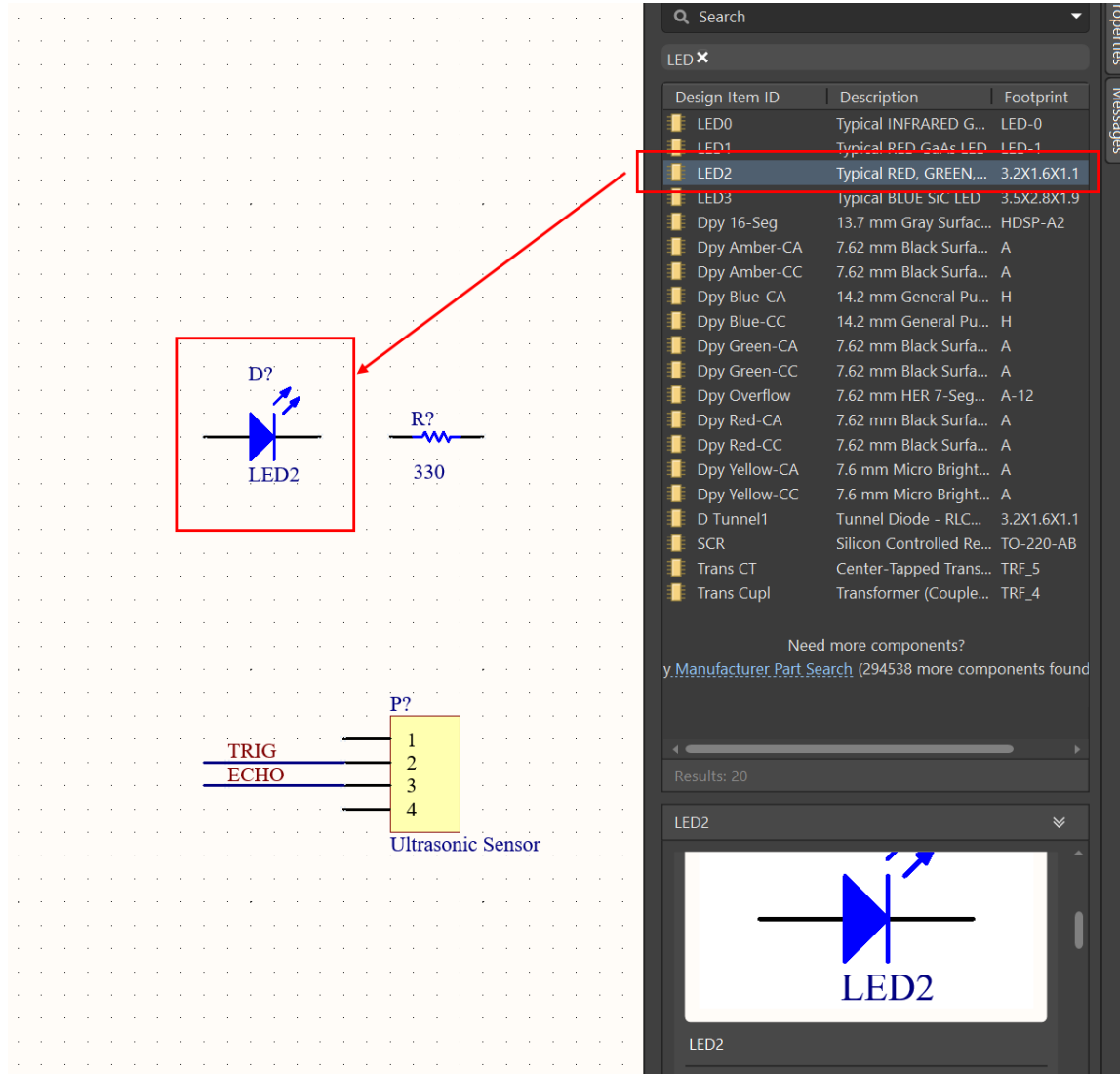
Font 10

B I U T

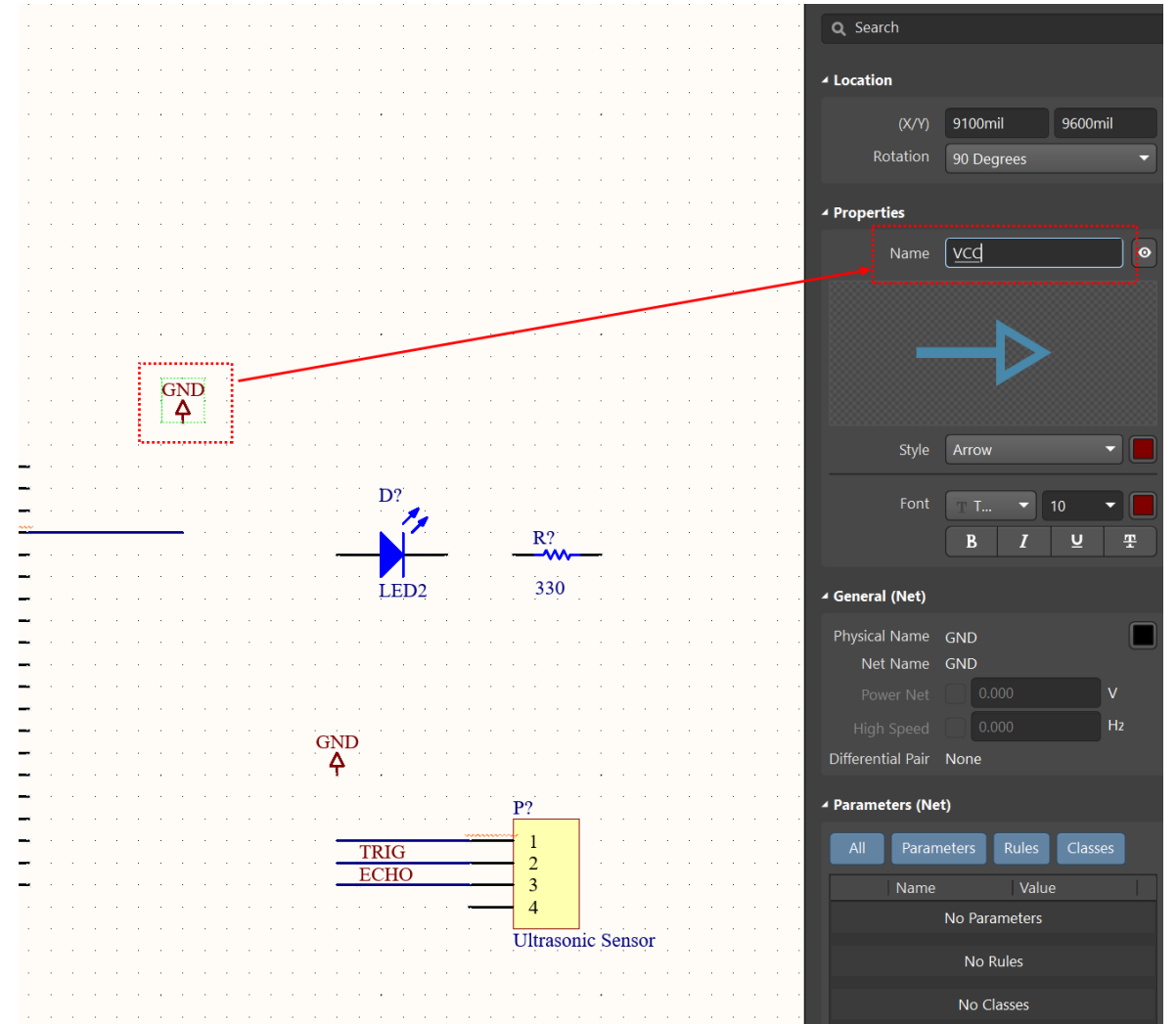
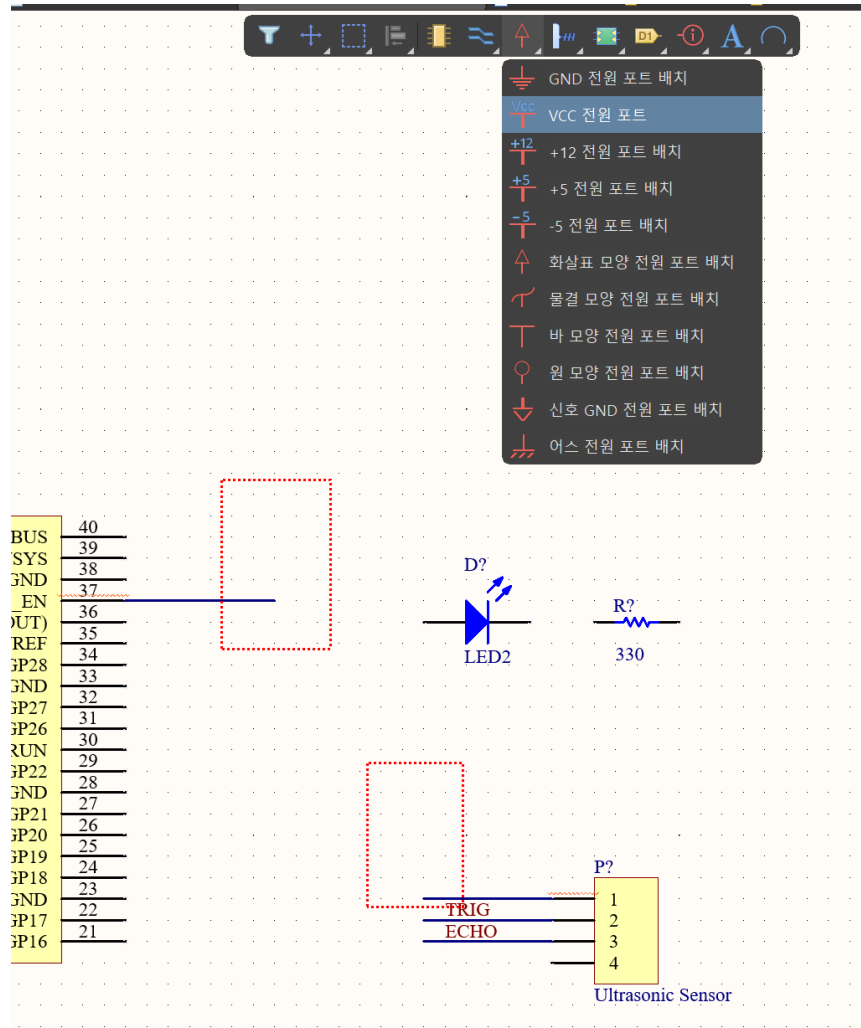
Justification

↖ ↗ ↘ ↙ ↕ ↔

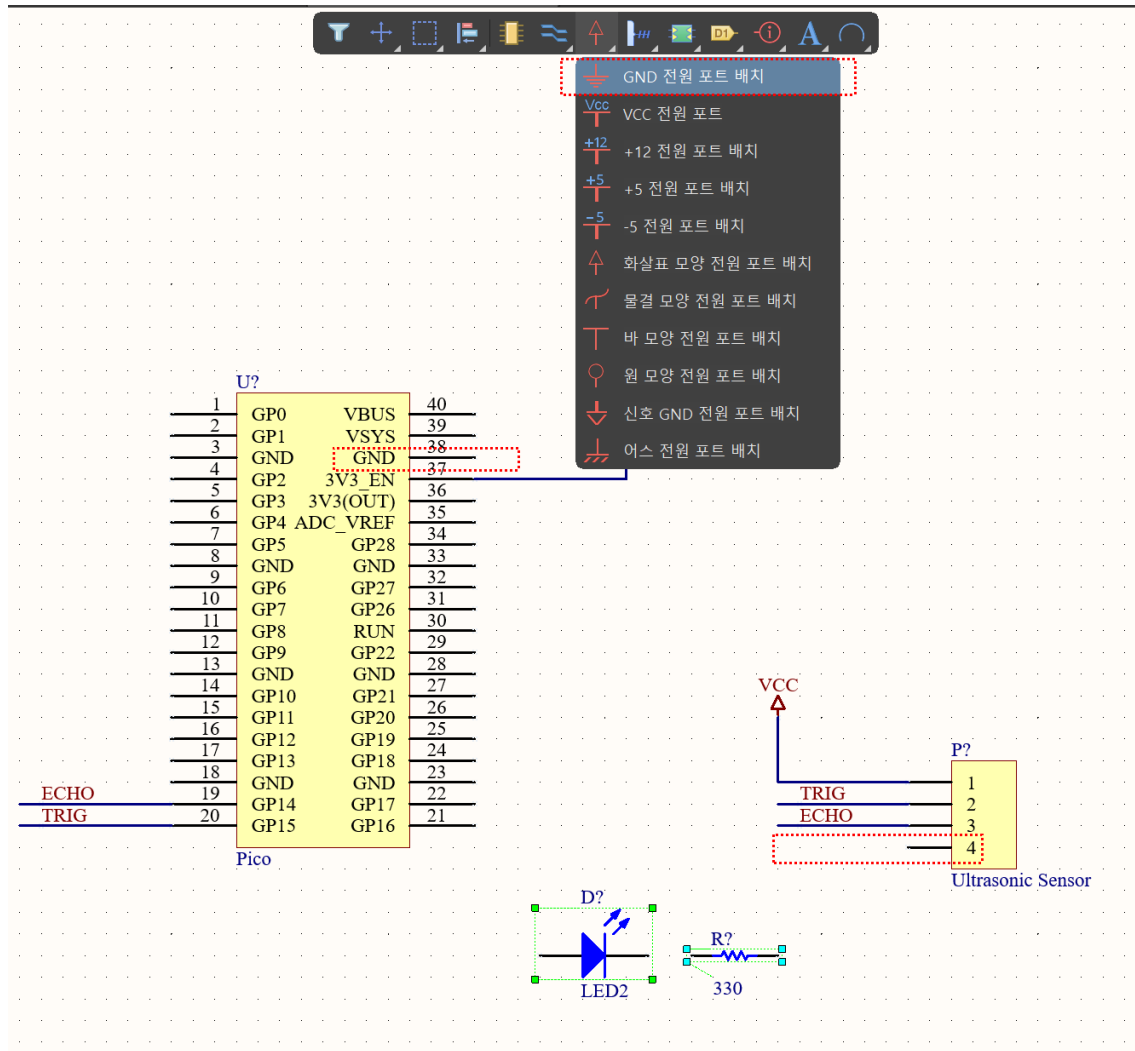
LED 를 다음과 같이 배치한다.



두 점선 사각형 내에 3.3V 전원을 배치하면 자동으로 연결된다.



다음과 같이 메뉴에서 GND를 선택하여 배치한다.



PICO 와 Ultrasonic Sensor 회로도

- <https://www.youtube.com/watch?v=GkfznA8SCQc>

