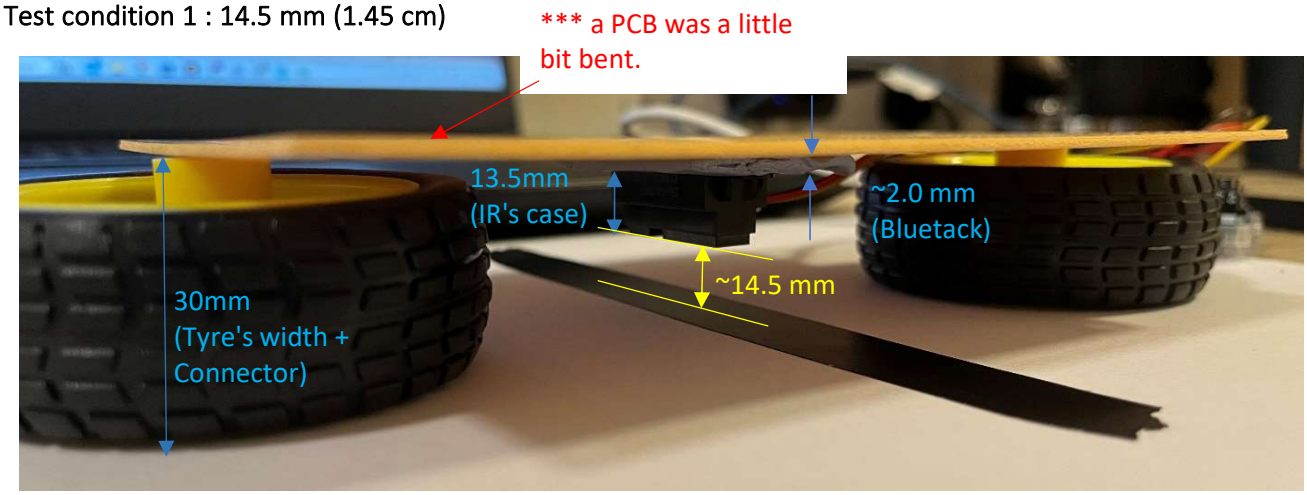
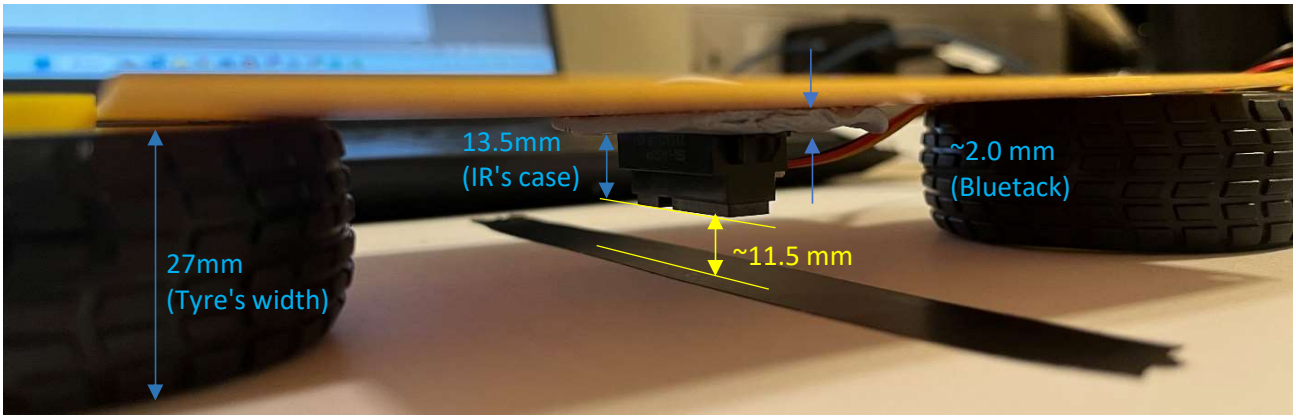
Sharp's IR sensor performance evaluation report (1)

As the testing of IR sensor on the arena on the last Tuesday, It seemed that when the sensor passed through the black track, the ADC value would jump up from about 300 to 500 depend on the distance between sensors and the ground. (about 1.5 cm?) In this report, The closer of IR sensor to the track have been tested. And the result turned out that when the sensors passed through the black track, The ADC would drop from about 300 to 3 which is a big jump. This may help to decide the position of the sensors. The plotted results is shown in the second page.

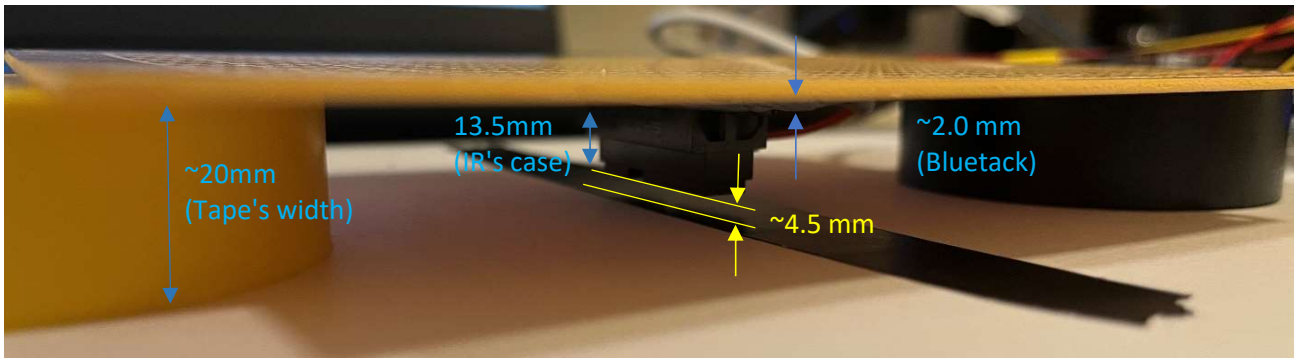
Test condition 1 : 14.5 mm (1.45 cm)



Test condition 2 : 11.5 mm (1.15cm)



Test condition 3 : 4.5mm (0.45cm)



Test result

Distance	≈ 14.5mm		≈ 11.5mm		≈ 4.5mm	
Data no.	IR_Read	Position	IR_Read	Position	IR_Read	Position
1	376	W	343	W	300	W
2	376	W	343	W	301	W
3	378	W	344	W	297	W
4	378	W	344	W	300	W
5	375	W	346	W	299	W
6	389	W	355	W	299	W
7	389	W	360	W	300	W
8	451	W -> B	327	W -> B	208	W -> B
9	512	B	303	W -> B	15	W -> B
10	515	B	268	W -> B	3	B
11	521	B	254	B	3	B
12	521	B	248	B	3	B
13	522	B	244	B	3	B
14	526	B	202	B	3	B
15	526	B	198	B	3	B
16	518	B	196	B	125	B -> W
17	499	B -> W	207	B -> W	305	W
18	417	B -> W	248	B -> W	296	W
19	410	B -> W	341	W	294	W
20	400	W	352	W	294	W
21	384	W	347	W	292	W
22	375	W	347	W	294	W
23	371	W	336	W	294	W