**Comparision with other non-contact Interaction methods:**

Previously, there have been many traditional technologies to achieve touchless human-machine interaction, namely, infrared gesture recognition, video gesture recognition, electric field gesture recognition, radar gesture recognition. Here the ultrasonic wave gesture recognition is very similar to radar gesture recognition. Below are the advantages and disadvantages between them.

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| **Technology Scenarios** | **Comments** |
| Infrare oftend recognition | Its more direction oriented and low power consuming, but has limited recognition area range. It’s sensitive to environmental light. |
| Video recognition | It can recognize objects within quite a long distance, however, it’s power consuming and easily be effected by environmental light and it’s device demanding. |
| Electric field recognition | Very power saving but just can recognize objects near the device. |
| Radar recognition | It has very good recognition accuracy and the devices can be small. |
| **Ultrasonic wave recognition** | Don’t need extra devices because most of our mobile devices have micro-phone and speakers like smart phones, PC or tablets, so it’s very economic;  It’s power saving;  It can recognize objects in quite a long distance and wide range;  It’s not sensitive to light so will not be effected easily by the environment;  The main limitation of it is that currently its recognition efficiency and accuracy is still not good enough to be widely used on our devices. |