

1. What does ODS stand for, and who developed it?

ODS stands for Output Display Standard. It is a standard for display signaling from ultrasound machines and other real time diagnostic instruments. ODS was developed jointly by the American Institute of Ultrasound in Medicine (AIUM) and the National Electrical Manufacturer's Association (NEMA).

2. Why were two different Technical Committees formed to develop seemingly overlapping standards?

Considering both European groups, (TC87 and TC62) there were actually three committees working on overlapping standards. TC87 decided that because ODS was an American standard, they were going to be a special flower and implement their own standard, presumably this time with games of chance, and ladies of negotiable favor. While TC62 was focusing on adopting ODS as a European standard.

3. What would be the result of publishing overlapping standards?

The existence of overlapping competing standards in industry can have the effect of counteracting the purpose of having a standard in the first place. Manufacturers either need to choose a standard to follow, making their product not compatible with some portion of other products, or need to implement multiple standards which can be expensive and confusing.

4. What was the first step taken to alleviate the overlapping standards/conflicting TCs?

The US sponsored a meeting of TC87. SC62B also had a meeting at the same time, and learned about the competing standards. An industry expert then volunteered to be a delegate to both TC87 and SC62B. During the meeting, the wording of the new competing European standard was changed to help prevent it from competing. But the TC Chairmen undid the changes quietly before they got published.

Does your design consider any general/specific engineering standards? If so, which ones and how? If not, what are some that can be incorporated? (Must review a minimum of two.)

The answer to this part was written as a group.

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Our design took into consideration an aspect of wireless charging known as Qi-Charging the Wireless Power Consortium. This consideration brought to light a standard of clearance when utilizing this kind of charging. Not following this standard of charging can lead to unsafe operation of our POV fan as the wireless charging pad causes a magnetic field that can heat metal, in our case the copper ground plane of the PCB.

Our project utilizes a proprietary communication protocol called ESP NOW. ESP NOW is a protocol developed by Espressif, which enables the microcontrollers on our fan blade, motor, and remote to communicate with one another without using Wi-Fi. The protocol works similarly to the same low-power 2.4GHz wireless connectivity used in wireless mice. It utilizes the WI-FI

radio and MAC hardware in the ESP, and simplified software on top. This follows band allocation standards for wireless communication as the 2.4GHz band is available for uses such as this project.