New Record In Class for Software Defined Radio in

Embedded Wireless Communication Class (CMPE 245)

HL

On Nov. 28 (Monday) 2022, scrambling/de-scrambling wireless project demo was made in class, Isaac Wahhab and Karthigai Ezhilarasu jointly created the new record of CMPE 245 Embedded Wireless Systems in an indoor software defined radio (SDR) communications with distance of over 150 feet. The transmitter message “SJSU CMPE245 (then first and last name of the designer)” was received and decoded at the receiver.

The testing environment is indoor at the 3rd floor of Engineering Building, see Figure 1. The communication was established by using the embedded prototype system built in the class (both hardware and software MAC layer per IEEE protocol guideline) with two nodes, node N_i and node N_j. The node N_i acts as transmitter and was placed in the hallway shown in the figure over 150 ft away (the location where the person is waving his hand) and the node N_j acts as receiver and was placed inside the classroom. The wireless signal has to pass partial wall enclosure and through the open door to reach to the receiver inside the classroom. Both nodes are using ASK mod/demo as RF modules.

Figure 1. The node N_i acts as transmitter and was placed in the hallway shown in the figure over 150 ft away (the location where the person is waving his hand) .

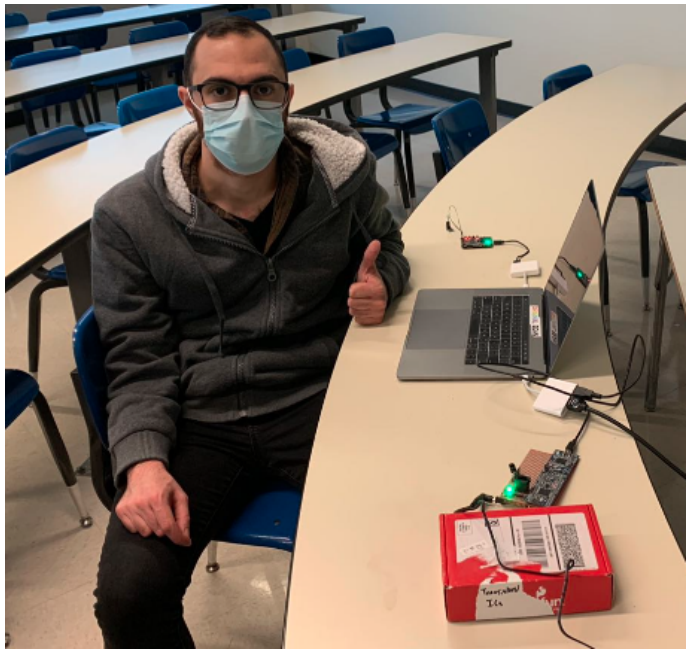

Figure 2. Isaac Wahhab jointly set the new record of CMPE 245 Embedded Wireless Systems in an indoor software defined radio (SDR) communications (using ASK RF module) with distance of over 150 feet.

Figure 3. Karthigai Ezhilarasu jointly set the new record of CMPE 245 Embedded Wireless Systems in an indoor software defined radio (SDR) communications (using ASK RF module) with distance of over 150 feet.

The previous record for outdoor transmission was set in 2009 which covers the distance from the rooftop of the College of Engineering Building to the 5th floor of the 7th street parking garage.

(END)