

Webinar 6: Wearable Antenna

Date: 26th Sept 2020

Time: 4:00 PM to 5:00 PM

About Webinar 6:

- GTU-Graduate School of Engineering and Technology had organized the webinar on “Wearable Antenna” on 26th Sept 2020. Dr. Sourav Roy (PhD, NIT Silchar) had talked about on the antenna. The antenna is EYE of Wireless Communication. Rapid Development in wireless communications has demanded multiband or wideband antennas to support wireless communication devices such as smart phones, tablets, laptop computers, radar system, satellite communication, airplane, and unmanned airborne vehicle (UAV) radar.
- In this webinar expert talked about novel approach in design of wearable, analysis and synthesis of multiband wearable antenna (Inside Human Body) and its challenges. He had also talk how to select (choose material) and design parameter to design multipurpose wearable antenna and also simulated and discussed one designed wearable antenna.

Prof. Raj Hakani, Asst. Prof, GTU-GSET had given the concluding remarks and end the session with vote of thanks. The overall coordination of this webinar was done by Prof. Raj Hakani, Asst. Professor, GTU-GSET.

During The session around 117 participant join in the webinar.

OUTCOME:

After attending webinar participant are able to choose antenna parameters, material and also learn how to design and simulate antenna.

Feedback:

- Very Knowledge full event. Sir given very deep knowledge on antenna. - Patel Mrunalkumar M
- It was nice to know about new technology - Nath Jaymini Ghanshyamnath
- Very good upcoming antenna technology and research work was presented - Arpit R Sakhreliya

INTRODUCTION

- Wearable Technology.
- Application in military services, fire department and medical application etc.
- The antenna requirement in wearable technology is quite different to the conventional counterpart.
- Bending and human body affect the antenna performance.

Fig.5.1. Wearable technology in clinical trials.

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HUMAN BODY MODEL

Fig.5.10. Human body model (a) small rectangular section consists of skin, fat, muscle and bone, and (b) wearable antenna mounted on the small rectangular body section with small gap (g).

Table 5.1: Material properties of human body at 2.45 GHz.

	Skin	Fat	Muscle	Bone
Permittivity	37.95	5.27	52.67	18.49
Conductivity [S/m]				0.82
Density [kg/m ³]	1002	900	1000	1008

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