Abstract

In this paper, the power profile for WBAN channel have been generated by using Rayleigh and Weibull distributions. [1]The value of mean path loss has been calculated and compared for different values of carrier frequency, relative body movement and number of scatterers. Moreover, the channel gain profiles have been plotted to obtain mean fading values for the optimum values of carrier frequency, relative body movement velocity and scattering density. Through extensive simulations, those values have been identified which shows minimum fading.

References

- K. Y. Yazdandoost and K. Sayrafian-Pour, &quot;Channel Model for Body Area Network (BAN),&quot; IEEE802. 15. 6 technical contribution, document ID: 15-08-0780-09-0006, 27 April, 2009, pp. 41-56.
- Huan-Bang Li, Ryuji Kohno &quot;12 Body Area Network and Its Standardization at IEEE
Simulative Investigations of Wireless Body Area Network through Varied Channel Conditions

802.15. BAN&quot;

- V. KAUR, J. MALHOTRA: Performance Evaluation of M-ary Modulations through WBAN Channel IMACST: VOLUME 2
- Attaphongse Taparugssanagorn, Alberto Rabbachin, Matti Hamalainen, Jani Saloranta and Jari Iinatti, &quot;A review of channel modelling for Wireless body area network in wireless medical communications.
- K. Y. Yazdandoost et al., &quot;Channel model for body area network (BAN)&quot;, (IEEE P802. 15-08-0033-00-0006, 14 Jan. 2008)
- David B. Smith, Tharaka Lamahewa, Leif W. Hanlen, Dino Miniutti (NICTA), &quot;Simple prediction based power control for the on-body area communications channel&quot;.
- David J. Ruprecht, &quot;Body area networks and body sensor networks&quot;.
- Lu Shi, Ming Li, Shucheng Yu and Jiawei Yuan, &quot;BANA-Body area network authentication exploiting channel characteristics&quot;.
- Christian Holz, Tovi Grossman, George Fitzmaurice, Anne Agur, &quot;Implanted User Interfaces&quot;.
- K. Sayrafian Company [NIST], &quot;A Statistical Path loss model for MICS&quot; doc ID: IEEE 802.15-08-0519-01-0006.
- Jung-Hwan-Hwang, Hyoung Park, Sung Weon Kang, Gajeongno, Yuseong-gu, Daejeon, &quot;Channel model for human body for human body communication&quot; doc ID: IEEE P802. 15-08-0577-00-0006.
- Erik Karulf, &quot;Body area network&quot;: A survey paper written under guidance of Prof. Raj Jain.
- Filipe Felisberto, Nuno Costa, Florentino Fdez-Riverola and Antônio Pereira, &quot;Unobstructive Body Area Networks (BAN) for Efficient Movement Monitoring&quot;.
- Jaamil Y. Khan and Mehmet R. Yuce, &quot;Wireless body area network for Medical Applications&quot;.
- Benoit Latre, Bart Braem, Ingrid Moerman, Chris Blondia, Piet Demester, &quot;A Survey on Wireless Body Area Networks&quot;.
- Kyung Sup Kwak, Sana Ullah and Niamat Ullah, &quot;An Overview of IEEE 802.15.6 Standard&quot;.
- Jun-ichi Takada, Takahiro Aoyagi et al, &quot;Static Propagation and Channel Models in Body Area&quot; COST 2100 TD(08)639, Lille, France, oct 2008, pp. 6-8.
- Md. Humaun Kabir, Kazi Ashrafulzaman, Sanaullah Chowdhury and Kyung sup kwak, &quot;Studies of reflectivity and transmissivity in WBAN channel; feasibility of using UWB&quot; pub: Sensor (Basel), 2010, 10(6):5503-5529

Index Terms

Computer Science
Wireless
Keywords

Wireless Body Area Network  Fading  Power profile  Fading  Path loss
Shadowing