Features of Realization of Connected Me Technology in the Informative Systems

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Abstract - **The features of introduction of innovative technology of Connected Me, that allows to pass data between mobile to the devices, are considered, where a human body comes forward the intermediate of transmission.**

Keywords – **Receiver, Transmitter, Body Coupled Communication, Electric current, Frequency, telecommunication.**

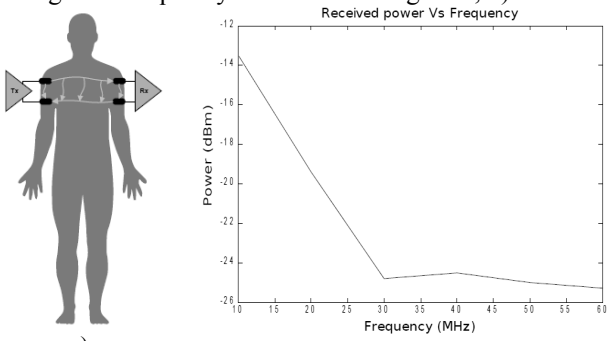
I. Introduction

In connection with that lately notably the height of the personal gadgets increases and, obviously, that to the modern world it became necessary to work out the effective method of connection of all electronic devices in a direct closeness from a man. Human body, as appeared, it maybe to use as part of communication network. The new appendix of company Ericsson Connected Me allows through smartphone to connect a man with any technique. I. e. holding in one hand a mobile telephone and laying other hand on a device, a man can send and get information instantly on high-rate. In this connection technology of Connected Me can be examined as a natural adding to the functions of mobile devices.

II. Connecting the human body

The capacitive coupling is this physical phenomenon that is used during work of devices of Connected Me for an exchange by information through weak currents into a body (generally known, that a human body on 80% consists of water and it can serve as an conductor). Such type of connection carries the name Body Coupled Communication [1], according to that inwardly human body the electric field that then can be passed in any other part of body is induced. At what a skin on a body comes forward as a dielectric. It is possible one of methods of realization of technology to count differential approach of connection of receiver, transmitter and man in that a signal is passed and accepted by means of two electrodes. Smartphone and receiver, equipped by the special digital chart, allow to pass data through the electromagnetic fields, that appear between the earthed human body, transmitter and receiver of electrode, as shown on a figure 1, a). A chart is connected to the plate that sends signals in a body. An analogical chart is realized in a receiver.

Researches of frequency description of human body showed that in technology of Connected Me at communication of data through a human body the best of all to use frequencies 10.60 MHz, because than higher frequency of signal, the best conductor is a human body. The chart of dependence of power of taking over frequency is shown on a figure 1, b).



a) b)

Figure 1. a) Differential approach connecting with transmitter (Tx), receiver (Rx) and human; b) Frequency response of human body

By an important factor, there is that at the use of low level of loading technology does not cause to the human organism of harm. It is found that the maximal level of current that can pass 11 mA equals through a transmitter, while the limit set by organization of ICNIRP 20 mA makes for a pin current.

III. Conclusion

The simplest chart that describes principle of work of technology of Connected Me is offered. Graphic data that confirm efficiency of technology for the mobile personal devices are got. Quantitative data over, that confirm safety of the use of technology for a human body, are brought.

References

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