The problems of the introduction of digital radio standard GSM-R on the railways of the Republic of Lebanon are described.

Key words: Republic of Lebanon, railway, communications, digital technology

History of appearance and disappearance of the Lebanese railway very dramatic and is directly related to the armed conflicts with neighboring Israel and the civil war in Lebanon.

In the period of the British mandate in Palestine through Lebanon was laid railway line, actually linking Egypt to Europe via Lebanon. This road was the only by rail in Africa.
In 2002, he was raised the issue of the restoration of the railway transport of Lebanon. Stimulating factor to this was the fact that in recent years there has been the development of railways in neighboring Syria.

The revival of railways of Lebanon in the future may become one of the most effective solutions for service transcontinental transport corridors from ports of the Mediterranean sea on the coast of Lebanon (Beirut, Batrun, Shekka, el-Mina, Jubeil, Saida, Tripoli, Junia, Tir), through the territory of neighboring Syria, to other countries of the Middle East, Europe and Asia.

The railways of the developed countries of the world currently mainly being used in the standard GSM-R, adapted specially for the tasks and needs of railway transport, as for transfer of voice and data. This standard was developed by a working group of the EIRENE (European modernized integrated network of radio for railways), was set up for the development of the standard of the single European integrated radio network for railway transport. On its basis are created security system and the transportation process control and other transport technological processes.

Network, constructed according to the standard GSM-R, have a number of additional features, including the provision of advanced telecommunications services, which enable you to meet the special needs of the railways through the use of group and circular calls, as well as the mechanism of priorities.

Digital communication system GSM-R has a number of advantages, which allow simplifying the exchange of information, improving the quality of customer service and level of safety of transportation of cargo and passengers.

Since at the present time a question of restoration of the railway Lebanon, then, in our opinion, is relevant to consider the option of introducing digital systems of radio communication of standard GSM-R for the Lebanese railways.

Obtained as a result of calculations of the value of the received signal does not exceed the minimum level (-95dBm) that meets the requirements of the system. In obtaining the values of the level of the received signal below the acceptable level arises the need for installation of additional base stations. In case of obtaining the values of the level of the received signal above the acceptable minimum level it makes sense to lower the effective height of the base station or power of the transmitter.

Because under the high station and ensuring good communication with her for long distances, which are already covered by other cells, most of the mobile stations are to be connected to the cell with a good signal and "spoil" her normal work.

When calculating the radio range was used application of Microsoft Office Excel.

Developed sketch projects coverage of GSM-R for all sections of the Lebanese railways.

Of the calculations shows that the organization of the network of GSM-R, for example, on a site of Beirut – El-Quseir need to install 15 base stations: 7 the railway station and 8 additional BTS on the driving.