Abstract

TITLE：Investigation examination for DSRC advancement technology

Speaker：Oki Electric Industry Co., Ltd.

About 10 years have passed after introducing 5.8 GHz band DSRC (Dedicated Short Range Communication) systems which use at ETC and ITS spot and so on, in Japan.
It is necessary to consider required technique for introducing the new communication system which can use without affecting the existing DSRC, from point of view of international cooperation and securing of future service extensibility.

On the occasion of examination, it shall contribute by utility of the frequency by the frequency common use with the existing system by aiming at the development of the technical standard for practical use while considering the facilities update time of RSU (Road Side Unit).

The enforcement items and results were as follows for this year.

1. Service summary examination and communication performance evaluation for new communication system
   Communication specifications plan to satisfy the communication requirements of the new services which were extracted from an investigation into inside and outside country trend was made clear. And it clarified the performance by the simulation and experiment. At the time, IEEE 802.11p was selected as a basic communication method from an overseas trend.

2. Interference evaluation among new communication system service and existing system service
   The interference condition used with the existing DSRC System was investigated, and an interference condition and problem were clarified from simulation results and field test results.

As these results, figure 1 shows the frequency allocation example, which is allotment examination example to the existing DSRC band of a new communication system, in Japan, Europe, and America.

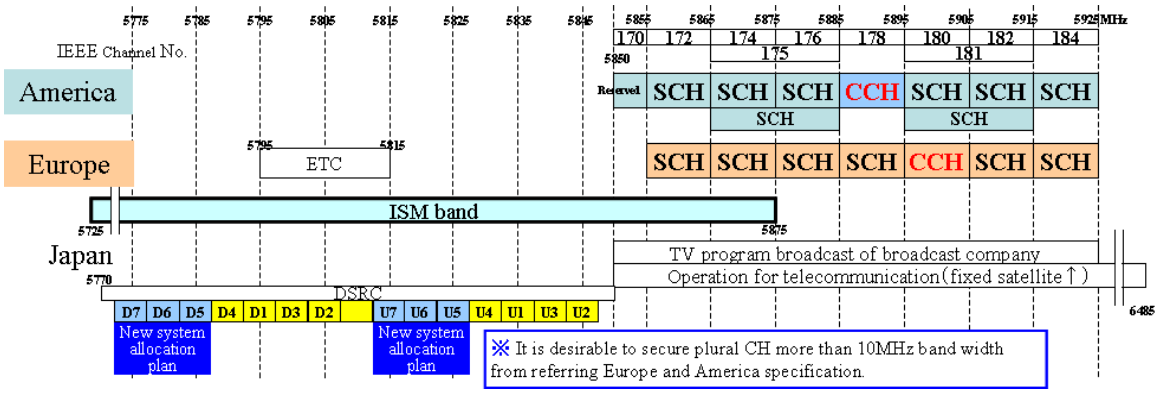

Figure 1. DSRC frequency allocation for Japan, Europe, and America, and new communication system CH allocation example.

By prospect about progress of the basics of new communication method examination and the common use with the existing system, it was able to achieve an aim enough. In addition, by these results, the correspondence preparations to an enforcement plan after the next financial year were set. Mainly on correspondence to an interference evaluation result and problem, it pushes forward the detail examination of the frequency common use technology in DSRC and the condition extraction, and will aim at the technique standard development of the new communication method in future.