

DSRC/WAVE (IEEE 802.11p Standard) FCC Policies, Rules and Specifications

Dedicated Short Range Communications (DSRC) is regarded as a wireless standard for vehicular communication with following specifications.

- Data Transfer Rate: 3, 4.5, 6, 9, 12, 18, 24, 27 Mbps [3]
- Frequency: 75 MHz of spectrum at 5.850-5.925 GHz [3]
- Number of Channels: 7 [3]
- Channel Bandwidth: 10 MHz [2]
- List of Channels and Their Frequency Bands: [1]
 1. Ch 172 (5.855 to 5.865 GHz) 5.86 MHz
 2. Ch 174 (5.865 to 5.875 GHz) 5.87 MHz
 3. Ch 176 (5.875 to 5.885 GHz) 5.88 MHz
 4. Ch 178 (5.885 to 5.895 GHz) 5.89 MHz
 5. Ch 180 (5.895 to 5.905 GHz) 5.90 MHz
 6. Ch 182 (5.905 to 5.915 GHz) 5.91 MHz
 7. Ch 184 (5.915 to 5.925 GHz) 5.92 MHz

- Output Power: 23 dBm to 33 dBm [1]
- Max Communication Range: 1,000m [2]
- Modulation: OFDM (Orthogonal Frequency Division Multiplexing) [1]
- Code Rate: 1/2, 2/3, 3/4 [3]
- Number of Subcarriers: 52 [3]

References

- [1] "Intelligent Transportation Systems Using IEEE 802.11p." Rohde & Schwarz. Web. 25 May 2015. http://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1ma152/1MA152_3e_ITS_using_802_11p.pdf
- [2] Dressler, Falko, Javier Gozálvéz, Jeffrey Miller, Erik Lambers, and Rene Rembarz. "LTE vs. IEEE 802.11p – Which Technology to Go For?" 2011 IEEE Vehicular Networking Conference. IEEE Communications Society, 14 Nov. 2011. Web. 27 May 2015. <http://www.ieee-vnc.org/2011/talks/panel.pdf>
- [3] Hsu, Chung-Hsien. "WAVE/DSRC Development and Standardization." Industrial Technology Research Institute, 1 Oct. 2010. Web. 25 May 2015. <http://www.csie.ndhu.edu.tw/webv3/cht/speech/NDHU20101001.pdf>