

# 5.9 GHz DSRC Spectrum and Potential Band Sharing

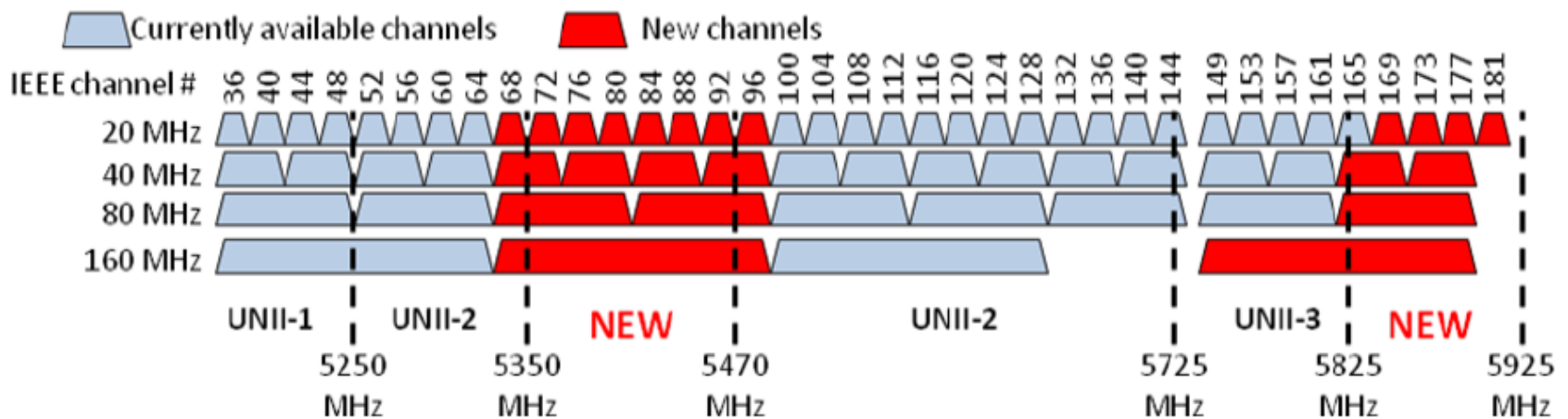


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# Background

- In October 1999 the Federal Communications Commission (FCC) allocated 75 MHz of spectrum in the 5.9 GHz range (5825 – 5925 MHz) for Dedicated Short Range Communications (DSRC)
- Demand for Wi-Fi continues to increase (estimated CAGR 15% for 2013-2018, ResearchAndMarkets.com)
- In February 2013 the FCC issued NPRM 13-22 (13-49) regarding sharing of DSRC band with Wi-Fi / unlicensed devices
- IEEE 802.11ac could be adapted to operate in the new U-NII-4 band, which would overlap the DSRC band if the FCC approved

# New 160 MHz Channel in the U-NII-4 Band



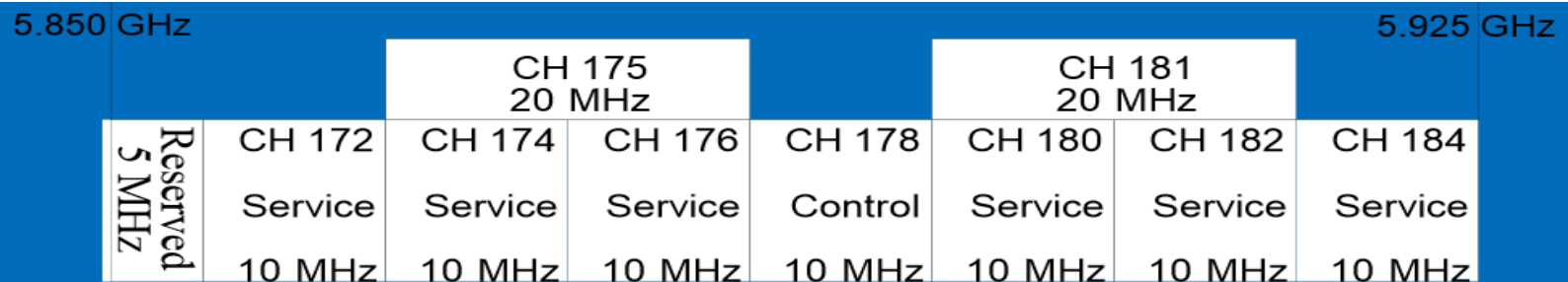
**UNII-1: 5150-5250 MHz band**

**UNII-2: 5250-5350 MHz and 5470-5725 MHz band**

**UNII-3: 5725-5825 MHz band**

# IEEE Tiger Team

- IEEE 802.11 convened a “Tiger Team” in August 2013 in order to address spectrum sharing
  - Open to all; Participation by auto and wireless industries, DoT & FCC
  - Completed its work in March 2015
- Two proposals presented and considered
  - “**Detect & avoid**” – Listen to all channels & move if DSRC detected
  - “**Spectrum repacking**” – Chs. 172 & 178 moved to upper part of band, next to channel 184 and lower 40 MHz would be shared by unlicensed (two 20 MHz channels)
- March 2015: Unable to achieve consensus – No official position from IEEE



FCC DSRC Channel Designations

Ch. 172: Collision Avoidance Safety

Ch. 178: Control Channel  
Advertise services on other channels

Ch. 184: High Power Public Safety

# USDOT Efforts

- Fall 2014 USDOT started to explore new options in addition to the IEEE Tiger Team efforts
  - Surrogate devices
  - First draft test plan outlining test scenarios
- Spring 2015 USDOT Spectrum Team established
  - Development of comprehensive test plan in cooperation with FCC & NTIA (National Telecommunications and Information Administration) to evaluate band sharing
  - Explore options to execute tests
- May 2015 Secretary Foxx announces that and device intended to share 5.9 GHz band with DSRC will be tested within one year

# The Way Forward

- ITS JPO publishes interference test plan on September 8, 2015 and seeking comments
  - [http://www.its.dot.gov/connected\\_vehicle/dsrc\\_testplan.htm](http://www.its.dot.gov/connected_vehicle/dsrc_testplan.htm)
- Inter-agency agreement with
  - Department of the Army, US Army Aberdeen Test Center
  - NTIA's Institute of Telecommunications Studies at Boulder, Colorado (ITS Boulder)



*Safer drivers. Safer cars. Safer roads.*

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