



World Class Standards

Intelligent Transport Systems

ETSI TC ITS Working Group 4

Media & Medium Related



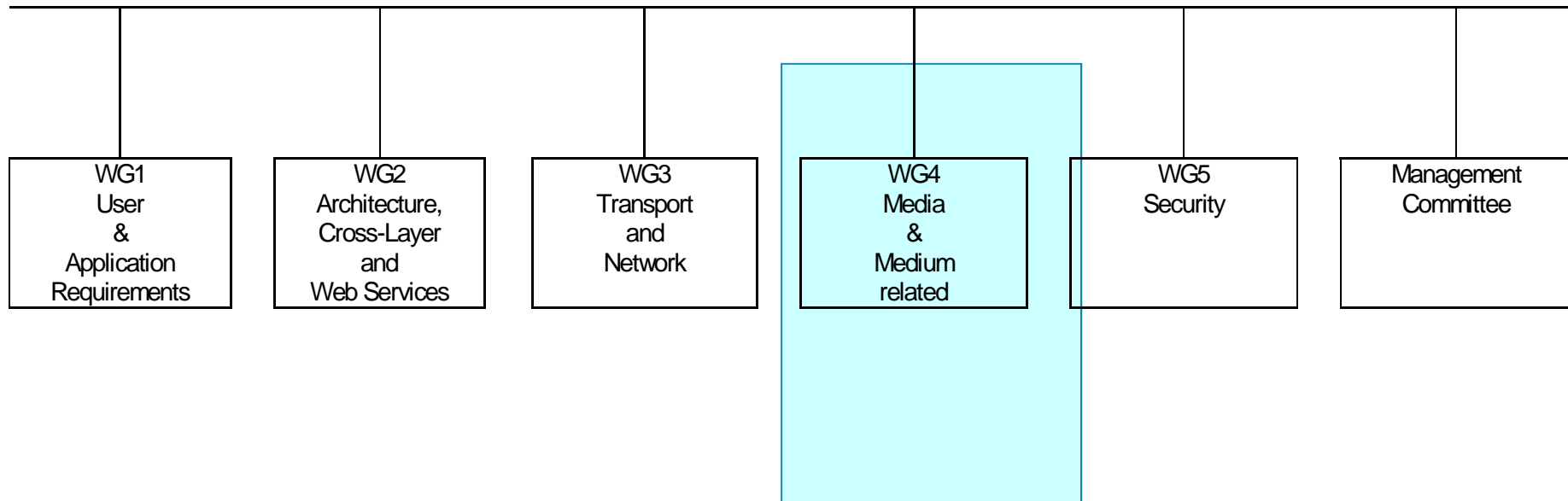
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Structure

TC ITS



Scope of Working Group 4

- ❑ **ITS WG 4 works on PHY & MAC standardisation issues**
 - **ITS-G5A** (European profile) in 5.875 GHz to 5.905 GHz frequency range
 - **ITSG5B** (European Profile) in 5.855 GHz to 5.875 GHz
 - **ITS-G5C** (European profile) in WLAN 5.4 GHz frequency range
 - **ITS-IR** Infrared
 - **ITS-G60** 60GHz millimetre wave
 - **IMT** Public cellular services such as 2G/3G, IMT
 - **Bluetooth** Bluetooth
 - **GNSS** (when referring to satellite based positioning information)
 - **VHF/UHF** Air interface below 1 GHz based on existing PMR/PAMR regulation & Harmonized Standards

European Profile Standard

- ❑ **ETSI ES 202 663 – Published by ETSI on January 14, 2010 after successful completion of the ETSI Membership Voting procedure.**
 - **Based on the completed work for 5.9 GHz ITS spectrum allocation in Europe, WG 4 created a new European profile standard for the PHY and MAC layers. In 2010, there will be a revision of this deliverable and is also expected to become European Norm.**

- ❑ **Harmonized Standards**
 - **EN 302 571 for 5 GHz ITS**
 - Will be revised to be in line with the European Profile Standard and experience gained from projects.

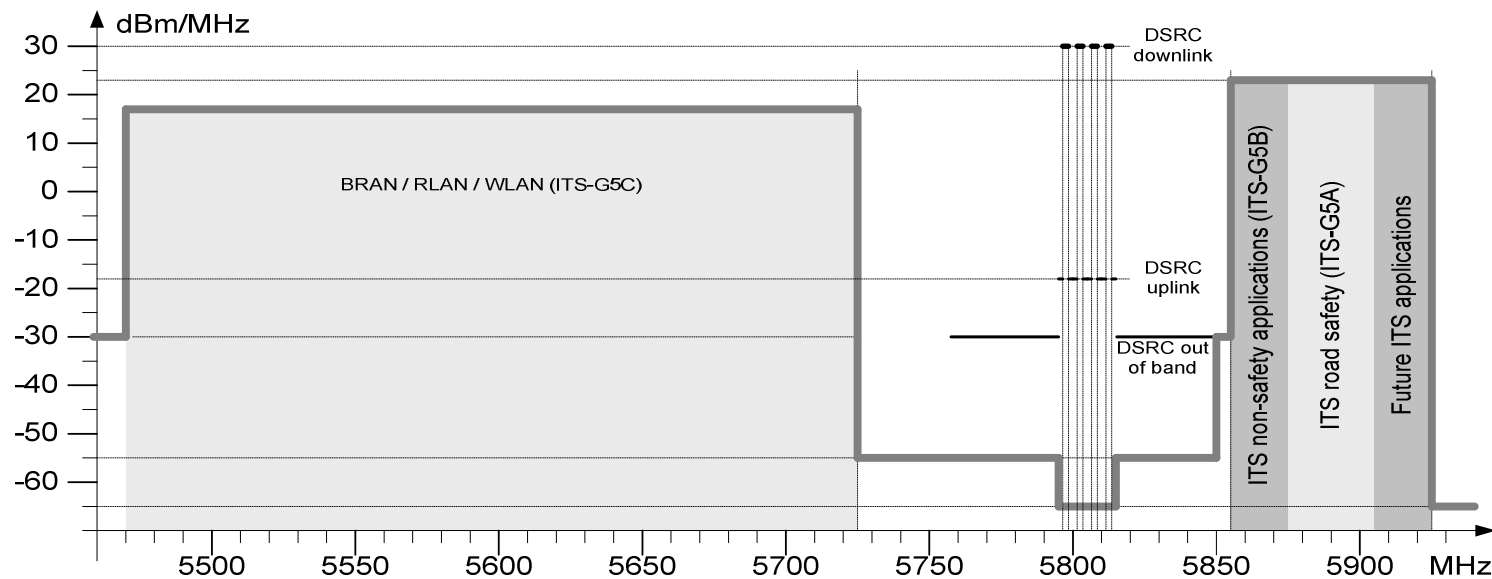
 - **EN 302 686 for ITS operating at 63-64 GHz**
 - Harmonized European Standard is being created in WG 4.

 - **Work on Harmonized European Standards for all media is in ITS WG 4. For the approval process, ETSI TC ERM is involved.**

- ❑ **ITS WG 4 may also develop new ETSI System Reference Documents in the future (i.e. spectrum requests) in line with the MoU between CEPT and ETSI.**

ITS G5 Frequency Usage

Frequency range	Usage	Regulation	Harmonized standard
5905 MHz - 5925 MHz	Future ITS applications	ECC Decision	ETSI EN 302 571 [1]
5875 MHz - 5905 MHz	ITS road safety	ECC Decision, Commission Decision	
5855 MHz - 5875 MHz	ITS non-safety applications	ECC Recommendation	
5470 MHz - 5725 MHz	RLAN (BRAN, WLAN)	ERC Decision Commission Decisions	ETSI EN 301 893 [2]





ITS G5 - European Channel Allocation in accordance with the European Profile Standard

Channel type	Centre frequency	IEEE [4] ch number	Channel spacing	Default data rate	TX power limit	TX power density limit
G5CC	5900 MHz	180	10 MHz	6 Mbit/s	33 dBm EIRP	23 dBm/MHz
G5SC2	5890 MHz	178	10 MHz	12 Mbit/s	23 dBm EIRP	13 dBm/MHz
G5SC1	5880 MHz	176	10 MHz	6 Mbit/s	33 dBm EIRP	23 dBm/MHz
G5SC3	5870 MHz	174	10 MHz	6 Mbit/s	23 dBm EIRP	13 dBm/MHz
G5SC4	5860 MHz	172	10 MHz	6 Mbit/s	0 dBm EIRP	-10 dBm/MHz
G5SC5	As required in [2] for the band 5470 MHz to 5725 MHz		several	dependent on channel spacing	30 dBm EIRP (DFS master)	17 dBm/MHz
					23 dBm EIRP (DFS slave)	10 dBm/MHz

Related Activities

- ❑ **Current ETSI Work Items for ITS G5 (ABC)**
 - **Mitigation techniques to avoid interference between European CEN Dedicated Short Range Communication (RTTT DSRC) equipment and Intelligent Transport Systems (ITS) operating in the 5 GHz frequency range (related to ETSI Special Task Force 395, EU funded)**

 - **Transmitter Power Control Mechanism for Intelligent Transport Systems operating in the 5 GHz range - TPC specifications for operation in the 5 GHz range to satisfy: regulatory requirement, congestion control and networking, inter-layer management, further requirements if identified.**
 - **(related to ETSI Special Task Force 395, EU funded)**

 - **Intelligent Transport Systems (ITS); Harmonized Channel Specifications for Intelligent Transport Systems operating in the 5 GHz frequency band**
The specifications for operation in the 5 GHz range to satisfy the harmonized usage of the designated spectrum by control and service channels including usage of channels for road- safety related ITS applications. This will also include transmit and receive restrictions (likely to have implications on TPC). Reference usage scenarios and parameters will be depicted in informative annexes that justify the specifications. Co-channel and adjacent channel interference considerations will be encompassed.

Thank you for your attention !

Questions ?