



5G - Reality in Europe

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Chairman CEPT CPG-19

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Europe's Strategic Vision on 5G



CEPT 5G Roadmap

Ready for
an early impementation

- **Harmonisation**
- **WRC-19**
- **Verticals**
- **Other Spectrum challenges**

see <https://cept.org/ecc/topics/spectrum-for-wireless-broadband-5g>

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ECC Actions - Harmonisation

- 3.400-3.800 MHz (currently in ECC/DEC(11)06)
 - Revised conditions in public consultation after June 2018
 - Guidance on defragmentation – New ECC Reports
- Other mobile bands (MFCN) - Review
 - 700, 800 and 1.5 GHz are generally 5G suitable
 - 2.1 GHz - ECC/DEC (06)01
 - 2.6 GHz - ECC/DEC (05)05
 - 900 / 1800 MHz - ECC/DEC (06)13
 - Further work on 2.3 GHz

ECC Actions – Harmonisation new band

26 GHz (24.25-27.5 GHz)

- New Decision on harmonised conditions within CEPT
 - Public consultation – March/April 2018
 - OOB limit [-42 / -44 dBW/200 MHz for BS]
 - Local Management of EESS / FS / SRS in-band-issues
- „Tool Box“ for introduction of 5G in 26 GHz
- Future work on „Flexible Duplex“ New Decision on harmonised conditions for 26 GHz

WRC-19

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Current status

24.25 – 27.5 GHz (**26 GHz-Band**)

- New allocation needed in 24.25 – 25.25 GHz in R1 and R2
- Stringent unwanted emissions in 23.6-24 GHz (passive)
- Compatible with satellite reception – FSS and ISS
- In-Band EESS/SRS and FSS earth stations / FS to be managed locally

45.5-52.6 GHz,
71-76,
81-86 GHz

- Limited interest

31.8 – 33.4 GHz (32 GHz-Band)

- New allocation needed
- Less contiguous bandwidth
- Compatibility with other services ???
 - Limited interest

66 – 71 GHz

- Compatibility with Radiolocation, MSS and Inter-SAT
- Opportunity for a very large band for small cells; up to 14 GHz of unlicensed band (56-71) – WiGig and 5G

37.5-40.5-43.5 GHz (**40 GHz-Band**)

- New allocation needed in 40.5 – 42.5 GHz
- Compatibility FS/FSS earth stations managed locally
- 6 GHz enables balance at national/regional level between 5G-FSS, coordinated/uncoordinated earth stations

WRC-19 Agenda Item 1.13 - The CEPT Position

CEPT supports sharing and compatibility studies for the bands listed in Resolves 2 of Resolution 238 (...), with the **focus on the frequency bands 24.25-27.5 GHz, 40.5-43.5 GHz and 66-71 GHz**.

CEPT supports the **identification of global bands for IMT** among the bands listed in resolves to invite ITU-R 2 of Resolution 238, [...]. **Bands outside** those listed in [...] Resolution 238 **are not supported** for consideration under this Agenda item.

CEPT intends to harmonise the 24.25-27.5 GHz band for Europe for 5G before WRC-19 Hence the 24.25-27.5 GHz is a clear priority for immediate study within CEPT and these **studies are assuming an individual authorisation regime**.

Studies need to take into account the **compatibility with and protection of all existing services, including their future deployments**, in the same and adjacent frequency bands; in particular the protection of current and future EESS/SRS earth stations should be addressed.

*...it is noted that “Europe has harmonised **the 27.5-29.5 GHz band** for broadband satellite and is supportive of the worldwide use of this band for ESIM. This band **is** therefore **not available for 5G**”.*

Verticals

- Interests for many different purposes:
 - Element for autonomes/ assisted driving
 - Industry production
 - New Aeronautical applications
 - ...
- Challenges in different levels:
 - Legal: Net-Neutrality, Specific Sector regulation
 - Usually not in Spectrum Regulation
 - Increased knowlegde on spectrum is needed!

Conclusion Remarks

- **Parallel development** of regulation and technology.
- **Global Harmonisation of 11,25 GHz**
are envisaged for 5G in new bands.
- **Certainty** and **Reliability** for future-prove investments.
- Expectation on WRC-19: Consensus seeking!
- On going discussions on digitalisation.

Europe is 5G-Ready!

Thank you !



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