

ICC 2015
5G mmW Panel
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Regulatory aspect of 5G mmW

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Frequency bands already harmonised by ECC for 2G/3G/4G

Band	Size (MHz)	Ref
800 MHz	2x30	ECC DEC(09)03
900 MHz	2x35	ERC DEC(94)01 & ERC DEC(97)02 &ECC DEC(06)13
1452-1492 MHz	40	ECC DEC(13)03
1.8 GHz	2x75	ERC DEC(95)03 & ECC DEC(06)13
2 GHz	2x60	ECC DEC(06)01
2.6 GHz	2x70+50	ECC DEC(05)05
3.4-3.8 GHz	400	ECC DEC(11)06
	Sub-Total : 1030 MHz	
700 MHz	2x30 + 20	ECC DEC(15)01
2.3-2.4 GHz	100	ECC DEC(14)02
	Total : 1210 MHz	

ECC actions for 5G

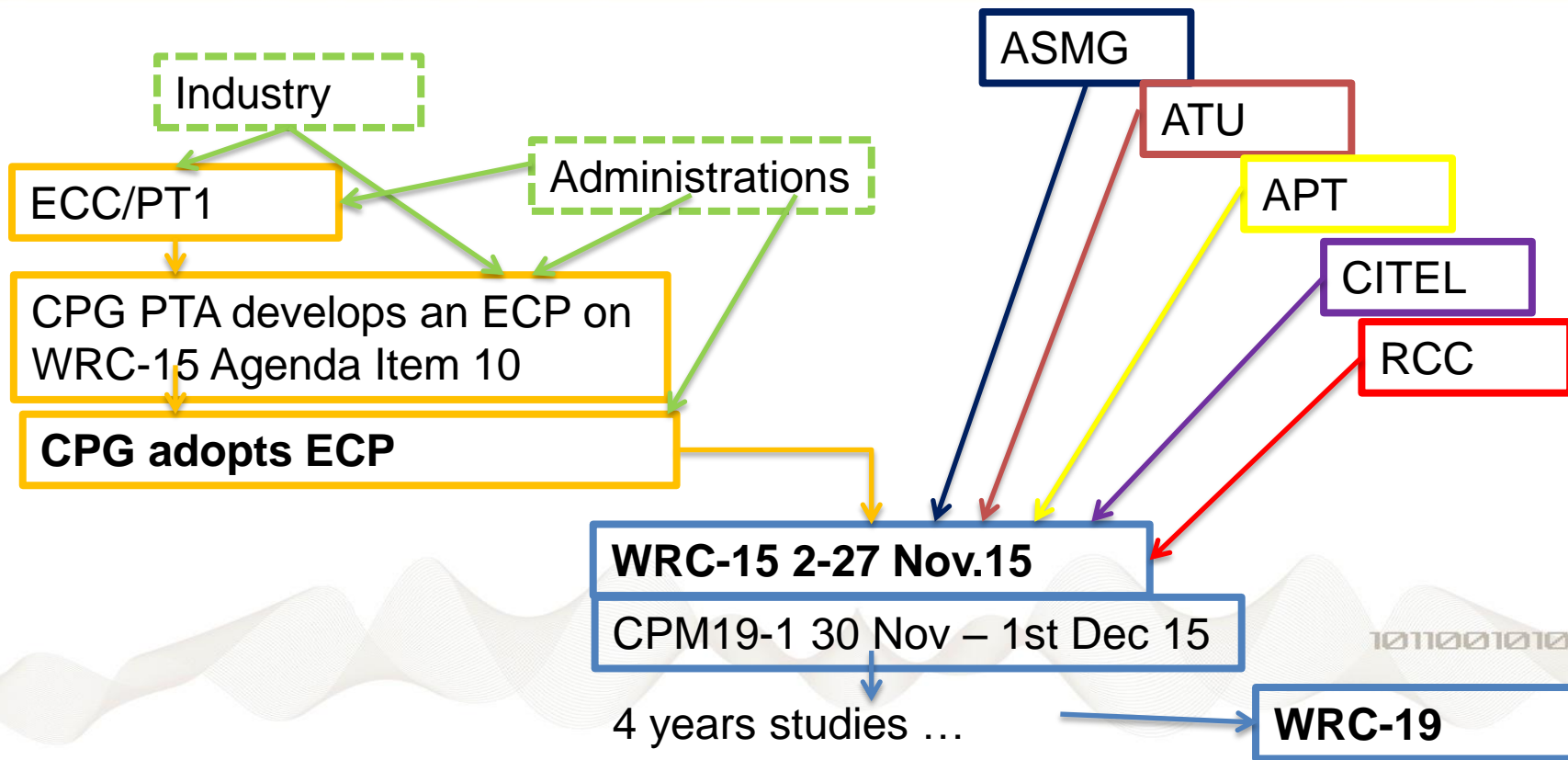
5G features are already in today's discussion

- ▶ Wider bandwidth : 2.3, 2.6 and/or 3.6 GHz bands
- ▶ M2M (700 MHz)
- ▶ Small cells, femtocells
- ▶ Cognitive technology and new sharing solutions (LSA)
- ▶ Better adjacent band coexistence requirement

Securing WRC-19 agenda item on 5G

- ▶ Inputs from industry justifying the spectrum need for 5G at WRC-19
- ▶ Exact formulation yet to be discussed:

The process for securing WRC-19 Agenda Item on 5G



Focus WRC-19 on certain frequency bands?

LMDS Band (27.5-28.35 GHz, 29.1-29.25 GHz, and 31-31.3 GHz)

39 GHz Band (38.6-40 GHz)

37/42 GHz Bands (37.0-38.6 GHz and 42.0-42.5 GHz)

USA 60 GHz Bands (57-64 GHz and 64-71 GHz)

70/80 GHz Bands (71-76 GHz, 81-86 GHz)

24 GHz Bands (24.25-24.45 GHz and 25.05-25.25 GHz)*

- Studying all bands > 6 GHz ?
Enormous work
- Limiting on certain bands ?
We may miss opportunity

CPG will adopt the ECP in September

Frequency range	6-20 GHz	20-40 GHz	40-60 GHz	60-100 GHz
Specific bands identified	10 GHz band 10.125-10.225 GHz / 10.475-10.575 GHz	32 GHz band 31.8-33.4 GHz	40 GHz band 40.5-43.5 GHz '45 GHz' band 45.5-48.9 GHz	66 GHz band 66-71 GHz
Potential bandwidth	2 x100 MHz	1.6 GHz	5.8 GHz total	5 GHz

OFCOM

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What will happen in ITU after WRC-15 ?

- CPM 19-1 (immediately after WRC-15) will organize the preparatory work
- One ITU group responsible for studying and proposing solutions : 5D ? TG 5X ? JTG ?
- 3 years intensive studies within ITU on coexistence issues with other services
- CPM 19-2 (beginning 2019 ?) will adopt the “CPM Report”

Final decision will be at WRC-19

Necessary coexistence studies in all bands, eg ...

- 24.5-26.5 GHz : fixed service (inc.NATO), WLL, Satellite data relays, FSS uplink
- 31.8-33.4 GHz : fixed service, radionavigation
- 40.5-43.5 GHz : fixed/broadcasting satellite service, radioastronomy
- 45.5-48.2 GHz : fixed satellite service
- ...

What about 5G ?

- Use of **wider bandwidth** and **higher spectrum**
Fine, the spectrum below 6 GHz is overcrowded
- Convergence between **access and backhauling**
Will it be the reality ? From the beginning ?
- **Small cells**
Any regulatory impact ?

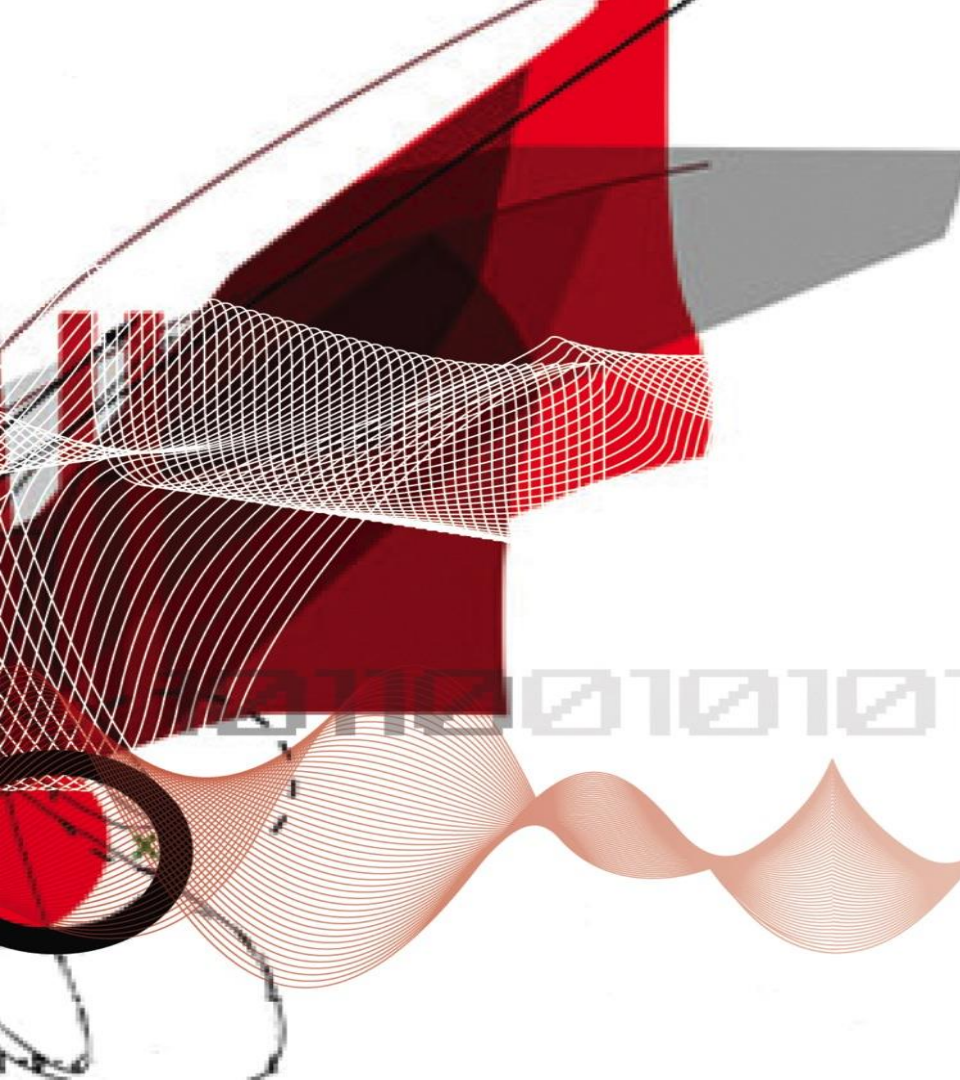
What about 5G ?

- Waveform with better **adjacent band performance**
Good news, LTE was challenging in adjacent band coexistence!
- New **sharing mechanism**
Which one ? Intra or Inter services ?

Preparing 5G after WRC-15

5G is part of the new ECC strategic plan

- Preparation of WRC-19 (including all sharing studies)
- Ensuring good progress in harmonisation of technologies/standards (through ITU)
- Consequence of 5G in existing bands



CEPT **ECC**
Electronic Communications Committee

Thanks ...