Position Paper

Comments on Draft ECC Report 218

"Harmonised conditions and spectrum bands for the implementation of future European broadband PPDR systems"

2015-August-31st

Bitkom represents more than 2,300 companies in the digital sector, including 1,500 direct members. With more than 700,000 employees, our members generate a domestic turnover of 140 billion Euros a year, exporting high-tech goods and services worth another 50 billion Euros. Comprising 1,000 small and medium-sized businesses as well as 300 start-ups and nearly all global players, Bitkom' members offer a wide range of software technologies, IT-services, and telecommunications or internet services. They produce hardware and consumer electronics or operate in the sectors of digital media and the network industry. 78 percent of the companies' head-quarters are located in Germany with an additional amount of 9 percent in other countries of the EU and 9 percent in the USA as well as 4 percent in other regions. Bitkom supports an innovative economic policy by focusing the modernization of the education sector and a future-oriented network policy.

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Summary

The Electronic Communications Committee (ECC) is part of European Conference of Postal and Telecommunications Administrations (CEPT). On 29th of May 2015 a draft of EEC Report 218 "Harmonized conditions and spectrum bands for the implementation of future European broadband PPDR systems" was published for public consultation. Bitkom is taking the opportunity to comment on this paper.

General Comments

Bitkom welcomes the principle of flexible harmonization around the 2x 30 MHz for Mobile/Fixed Communications Networks (MFCN) plus Supplemental Downlink (SDL) for the 700 MHz band and the choice of Long Term Evolution (LTE) as technology for broadband Public Protection and Disaster Relief (PPDR) described in the report. A list of compatible options allows administrations to choose solutions best suited to their national targets while relying on common ecosystems for devices and networks, allowing for interoperability and cross-border communications between PPDR

networks of different countries, and avoiding co-existence issues along country borders.

Bitkom proposes to not exclusively reserve any bandwidth for PPDR within the 2x 30 MHz relevant for MFCN as proposed in Options A and F as this band can be best utilized for very high bandwidth commercial mobile broadband networks also supporting the delivery of 30 Mbps to every home in the EU as targeted by the Digital Agenda for Europe. Thus Bitkom believes that the full bandwidth addressable by 3GPP Band 28 compatible terminals shall be available to consumers in normal operation cases. Consequently, Bitkom recommends considering primarily concepts of shared capacity between commercial MFCN and PPDR under Options e.g. B and C in combination with shared capacity resources from within the 2x 30 MHz of MFCN.

Bitkom proposes to consider sharing opportunities between commercial networks and PPDR networks. Exclusive spectrum resources outside the commercial 2x 30 MHz can be combined with spectrum resources within the commercial 2x 30 MHz range on demand and with priority for PPDR. Such a hybrid approach can be imagined e.g. along Options B and C. 2x 5 MHz exclusive PPDR resources provide sufficient capacity for all signaling, mission critical voice and low to medium data rate services such as license plate recognitions, data base queries and still images. For high bitrate services such as high resolution video transmission, additional resources could be used from commercial network operators. Ideally, such a network could be operated by the same entity allowing for high operational synergies and early availability of networks.

Bitkom sees Option E not being compatible with the other proposed options A-D and F as the proposed Uplink (UL) range of Option E overlaps with the proposed SDL range of all other options which would lead to severe co-existence issues along country borders. Option E may also suffer from limited interoperability and cross-border communication capabilities.

Bitkom shares concerns raised in SE7[1] regarding the feasibility of Option E regarding the implementation of terminals based on current components due to the narrow duplex gap of 5 MHz. The proposed workarounds in terms of limiting the individual terminal bandwidth would also limit the achievable peak data rates in both links and thus may limit the capabilities to meet the minimum bandwidth requirements of PPDR.

[1] Working group “SE7 – Compatibility and sharing issues of mobile systems” within working group “Spectrum Engineering” within working group “Spectrum Engineering” of ECC

Option E would prevent operational synergies of hybrid approaches between PPDR and commercial networks as outlined above as one cannot expect neither networks nor terminals supporting the 2x 40 MHz with just 5 MHz duplex gap required for such solutions.

For the above reasons, Bitkom expects significantly larger ecosystems around options B-D than around Option E, reducing Option E to a small market size with high cost of equipment.

Consequently, Bitkom proposes to reflect these issues as appropriate in the Draft ECC Report 218. Furthermore, based on the disadvantages mentioned above, Option E should not be further considered when developing the ECC deliverable containing the harmonised technical conditions for broadband PPDR within CEPT.

Bitkom sees the 400MHz range and especially the band at 450MHz, as another valid option for PPDR usage which should be further analyzed. While the 410 – 430 MHz range is both heavily used and fragmented, the 450 – 470 MHz band could provide up to 2 x 5MHz additional PPDR spectrum which would benefit from better propagation conditions compared to PPDR at 700 MHz and resulting cell ranges similar to those existing today for the narrowband PPDR (TETRA and TETRAPOL) networks at 380 – 400 MHz and the possibility to reuse existing PPDR network sites by using the same antennas.

Proposals related to the ECC Deliverables

[Note: proponents are invited to use the following table to provide comments. It is also possible to provide as an annex the proposals with track changes and related justifications.]

Comment number	Section number / Clause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change
1	0.7		General	See above	Add sentence: This option is not considered useful for inclusion in the planned ECC decision or recommendation.

2	8.2		General	See above	Same proposal as in comment 1