

Response of Kabel Deutschland to the public consultation on the draft RSPG Opinion on the Digital Dividend (RSPG09-272)

1. Introduction

Kabel Deutschland (KDG) operates cable networks in 13 German states and supplies its services to approximately 9.1 million connected TV households in Germany. Being Germany's largest cable network operator, Kabel Deutschland develops and markets new offers for digital TV, broadband Internet and fixed line phone services via cable as well as mobile services. KDG offers an open digital TV platform for all program providers. The company operates the networks, markets cable connections and provides comprehensive services for all matters of cable connectivity. In fiscal year 2008/2009 (12 months ended March 31, 2009), Kabel Deutschland reported preliminary revenues of approximately € 1.4 billion and adjusted EBITDA of €571 million.

In general, cable networks are designed for a use of the full spectrum up to 862 MHz. Though the terrestrial band 790 – 862 MHz is now foreseen for the provision of electronic communication services it has been traditionally used by many cable operators for delivering TV and data signals to their customers. Any change in the allocation of the spectrum for other infrastructures, in particular freeing the so called Digital Dividend spectrum, can directly affect our end customers and networks. One major advantage of cable in the increasing competition with satellite, Digital Terrestrial Television (DTT) and IPTV services is the quality and stability of our TV- and data services, our customers expect to receive all multimedia services via cable in today's quality.

Initial tests conducted by the German "Institut für Rundfunktechnik" (IRT) and ANGA delivered strong evidence of extensive interference problems between an in-home mobile service and TV and data signals delivered via cable in the same frequency range. Due to different shielding properties and immunity requirements the consumer devices such as Set Top Boxes (STBs) have been clearly identified as the most sensitive element of the cable network infrastructure in the presence of a simulated LTE network in both up- and downlink

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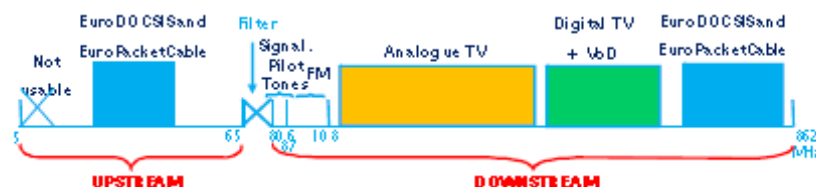
transmissions.

Whilst we agree that there are significant societal and economic benefits to be gained from the unique opportunity of making available the Digital Dividend in the UHF band, it is of utmost importance to carry out a detailed impact assessment comparing the existing services enjoyed by citizens' and consumers with the perceived benefits of a new mobile service.

We therefore suggest that an in-depth impact assessment will be carried out before any final decisions are taken and time scales are drawn up. In particular the economic advantages/disadvantages of freeing the Digital Dividend spectrum and its impact on our customers need full disclosure. Such an impact assessment must to take into account the following points:

2. Potential impact of the use of the digital dividend for mobile services on cable operators

Cable networks are designed to use the spectrum range up to 862 MHz. This spectrum is used for analogue (satellite), digital and data services. A typical example for the usage of the 862 MHz spectrum is shown in the figure below.



In Germany, analogue terrestrial services have been replaced by analogue satellite services following their "switch off". The spectrum between 790 – 862 MHz is used in different ways by network operators, some operators provide analogue TV-services from satellite; others use it for the transmission of digital TV- or internet and telephony services. Cable networks which are upgraded to 862 MHz serve close to 8 million homes in Germany.

However, those operators that have not yet upgraded their networks to 862 MHz are relying on that frequency band for future expansion of services for a number of reasons.

- Currently, German cable operators are preparing for the introduction (implementation) of EuroDOCSIS 3.0 technology. This standard for high-speed data distribution over cable networks will elevate cable to become one of the first Next Generation Access networks (NGA) with download speeds of 100 MBit/s and higher per home.
- At present cable is competing with traditional telecom systems such as ADSL, the NGA services will allow the citizen access to high speed broadband higher than

delivered by today's DSL-networks. Cable is a major driver for infrastructure competition and stimulates the roll-out of fibre by incumbents and other operators. Interference to these services by the new mobile service would be seen as a restriction of trade and unfair competition.

- The advance of Video-on-Demand services will also need substantial additional capacity over and above today's networks.
- During the course of this and next year HDTV programmes will start to play an important role in attracting customers for digital TV-services via cable. Several broadcasters (ARD, ZDF, ARTE, RTL, Vox and Premiere/Sky) have already announced HD programmes. In order to offer attractive HD programmes on cable networks additional bandwidth within the existing range traditionally used by cable network operators is needed.

Cable operators in Germany can and will contribute significantly to the roll out of NGA, which concurs with the overall public economic interest and will help to achieve to reach the i2010 objectives. Many German homes can only be served via cable with broadband internet. Some have for the first time a real choice between the ADSL offering of the incumbent DT and an alternative broadband provider. Introducing mobile telecommunication services, not only mobile broadband, via the Digital Dividend spectrum could affect these services by limiting the usability of bandwidth capacity available for cable networks or even directly interfering with the transmission of internet and telephony data.

The use of the Digital Dividend for mobile telecommunication services can affect the services on cable networks in different ways. As already mentioned above, the end-customer devices and, in particular, the tuners both for conventional TV and set top boxes seem to be the weakest link in the chain. The results of the tests conducted in Germany and Austria show clearly that interferences are to be expected, if services via cable and mobile services operate in the same frequency band.

Other potential interferences like the overload of the tuner by the interfering signal and image frequency effects could influence services, which are allocated in neighbouring channels. Especially the image frequency effect would have an impact on frequencies in a range of about 72 MHz to the frequency in which the mobile device operates. These kinds of effects have been identified in a study that has been commissioned by the Federal Ministry of Economics and Technology and conducted by the Heinrich-Hertz-Institute on the implications for DTT-Set-Top-Boxes. Similar effects can be anticipated for cable networks.

These effects need to be clarified before the usage of the Digital Dividend for mobile telecommunication services can be taken into consideration.

3. Potential impact of the use of the digital dividend for mobile services on end customers

Current tests show that interferences will have an effect on end-user devices such as Set-Top-Boxes, cable modems or TV-sets. In Germany, according to research conducted by SES ASTRA and TNS Infratest counts, there are 5.78 million cable homes which use digital cable services, i.e. either a Set-Top-Box or a digital TV-set with integrated tuner. In both cases the tuner could be affected and the viewer may be forced to exchange such a device at his cost.

Many flat screen TVs on the market today include a DTT tuner. Integrated cable tuners for digital TV can already be found in the higher price segment of flat screen TVs. In 2009 some 4 million flat screens containing a digital cable tuner are expected to be sold in Germany. All major manufacturers have announced to equip their TV-flat screens with integrated cable and DTT tuners for the near future. These trendy and quite expensive devices promise to be well accepted by viewers. Interference caused by the use of the Digital Dividend by mobile services after its release will endanger the proper operation of these devices and cause enormous detrimental effects for the living room experience of the viewers(including game consoles).

There have been proposals to address this issue outside the scope of the spectrum issues currently examined by the ECC under a mandate from the European Commission (EC) and to find a solution for the problems identified by developing an appropriate European harmonised EMC standard. In our view, this would not be the right approach to tackle the likely effects for millions of our viewers and their existing and legacy products. Therefore, it is essential that this problem is identified as a relevant issue to be looked upon within the decision-making process on the release of the Digital Dividend spectrum for mobile telecommunication services. Here, also the question of who will pay for the remedial actions has to be addressed.

4. Time frame for decision upon the use of the Digital Dividend

The current planning for the re-allocation of the Digital Dividend spectrum does not take into account any of the above mentioned issues. The scheduling foreseen for the release seems to be extremely short: In fact it is too short to expect that the interference issues will be properly addressed, solutions found and implemented. Previous changes in spectrum use, such as the detailed spectrum investigations carried out by CEPT in the early 1990's used changeover periods of some 10 years. No account has been taken of the logistics for developing and exchanging the affected consumer equipment, not to speak of the costs attached to such a equipment change for a whole customer basis.

In our view, it is vital that a political decision ought to be taken according to which no release of the Digital Dividend, in particular no auctioning is possible before the substantiated concerns of all stakeholders involved have not been met. In this regard, the decision of the Bundesrat, the Federal Chamber of the Länder, might serve as an example.

When it agreed the revised statutes for the general frequency allocation of the 790 – 862 MHz band¹ for mobile services, it decided to issue a note tackling the issues central to this paper.² This note has one recital which reads as follows:

„Vor der tatsächlichen Frequenzvergabe und Nutzung der Digitalen Dividende ist für die Störproblematiken für drahtlose Produktionsmittel und sowohl für leitungsgebundene als auch für nicht leitungsgebundene Rundfunkübertragung eine befriedigende Lösung aufzuzeigen.“

This translates about as follows: *“Before the final licensing of the frequency for the usage of the digital dividend the interference problems for wireless production devices (this are cordless microphones) and for broadcast via cable or terrestrial a satisfying solution has to be demonstrated.”*

5. Conclusion

Taking into account the interests of our millions of end-customers and our industry, we request that the above mentioned issues are identified as critical issues within the decision-making process of releasing the Digital Dividend spectrum. In our view they need to be studied in detail. Other cable operators in the EU are currently doing similar tests. A solution, which enables all existing and future users of the spectrum range in question to commonly use that band without or at least with minimum possible interference, should be the core objective before any decisions on releasing the Digital Dividend are taken. Simply ignoring the potential interference issues would effectively mean preferential treatment of one possible broadband infrastructure over another, which would result in unfair competition and a restriction of trade for the cable operators who are heavily investing in a very successful NGA-fit infrastructure located both in suburban and rural areas.

Unterföhring, 30 June 2009

¹ Bundesrat Drucksache 204/09

² Bundesrat Drucksache 204/09 (Beschluss)