Anhang (D)

Bundesamt für Kommunikation BAKOM

HUAWEI

Schreiben von HUAWEI an BAKOM vom 31.7.2017

Nachfolgend sehen Sie eine Kopie der E-Mail-Kommunikation vom 31. Juni 2017 zwischen Huawei Executive Axel Menning und dem BAKOM, die ich von einem integren Wistleblower im Bund bekommen habe. Ich glaube nicht, dass Sie von diesem brisanten Schreiben Kenntnis haben, oder eventuell doch?

Frage 4:

- The current NISV has strong impact on the network rollouts. Some bands cannot be activated on the site because of the limitation of NIS, e.g. 1800MHz 4T4R cannot be enabled on all the sites as basic capacity layer, and 2600MHz is mostly used indoor only. If NISV regulation cannot be changed, there is no power left for the new frequencies for 5G, which means that auctioning of frequencies is only useful, after a needed NIS-Relaxation.
- The other limitation is the number of antennas per sector. For 5G, there will be 2 antennas at least for one sector, one passive antenna for legacy band and technologies, the other for 5G active antenna like 3.5GHz

Deutsche Übersetzung:

Wenn die NISV-Regelung nicht geändert werden kann, bleibt für die neuen 5G-Frequenzen keine Möglichkeit mehr übrig. Dies bedeutet, dass die Versteigerung von Frequenzen nur nach einer erforderlichen NISV-Lockerung sinnvoll ist.

Basierend auf der Mail-Kommunikation zwischen BAKOM und Huawei, wissen wir heute also, dass der Bund die 5G Konzessionen frühzeitig, in voller Kenntnis der Sachlage und unter Ignorieren des Vorsorgeprinzips dennoch an Swisscom, Salt und Sunrise versteigert hat!

Dieses ungesetzliche, betrügerische Vorgehen, verdient eine unabhängige Untersuchung gegen das BAKOM und ComCom, oder gleich eine strafrechtliche Anzeige gegen die Haftbaren und Verantwortlichen beim Bund; hier handelt es sich um ein klares Offizialdelikt, das eigentlich von der Staatsanwaltschaft von Amtes wegen automatisch geahndet werden müsste ....

Untenstehend, auf den folgenden Seiten ist die Kopie der E-Mail-Kommunikation vom 31. Juni 2017 eingefügt:

De : Axel Menning [mailto:axel.menning@huawei.com]
Envoyé : lundi 31 juillet 2017 23:57
À : _BAKOM-TP-ND <TP-ND@bakom.admin.ch>
Objet : HUAWEI - Input öffentliche Konsultation Mobilfunkfrequenzen

Sehr geehrtes BAKOM Team,

Im Namen von Huawei beantworte ich Ihnen gerne einige Fragen zu Ihrer öffentlichen Konsultation über die Vergabe der Mobilfunkfrequenzen.
Wir haben uns auf die Huawei relevanten technischen Fragen konzentriert.
Die Fragen sind auf Englisch beantwortet, da wir noch Input von unserem HQ in China berücksichtigt haben.

Frage 4:

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1400 MHz
Frage 12:
700Mhz

The 700 MHz band is the lowest harmonised IMT band in Europe. It will be therefore essential for providing a wide area 5G user experience, including but not limited to the M2M/IoT use case. We consider that public commercial mobile networks are well placed to support wide-area M2M communications for a range of vertical industries, and can exploit huge investments in radio infrastructure and economies of scale in equipment.

Frage 13:

As regards the national options for the duplex gap and guard bands in the 700 MHz band, Huawei believes that SDL would be the optimum use of the duplex gap which would contribute to the efficient support of the growing consumer demand for mobile data, which is primarily driven by the streaming of audio-visual content. At the same time the SDL designation could be effectively combined with the dedicated 2x5 MHz + 2x3 MHz for broadband PPDR services in the duplex gap and guard bands respectively, as recommended by CEPT Report 053. A broad support of equipment operating in the mentioned frequency options for BB PPDR is ensured through the standardisation process in 3GPP.

Frage 14:

Huawei recommends making the main FDD portions of the 700 MHz band available for IMT by year 2020, synchronised with the vast majority of European countries. Such a relocation of the 700 MHz band for mobile use would allow maximizing the economic and societal benefits for the Swiss consumers. We understand that, in line with the EU technology neutrality policy, the authorisations issued for 700 MHz would allow either the deployment of commercial 5G networks from start or a technology evolution from LTE towards 5G without regulatory barriers.

1400 MHz
Frage 16:

- L-band (1427_1517MHz) is a unique opportunity for operators to deliver 4G services or 5G services in the future that require both deep indoor and rural coverage together with decent DL capacity. L-band could offer possibly a DL capacity of 30MHz per operator (considering 3 operators) to complement the 10MHz DL capacity available from 700MHz or 800MHz band in deep indoor or rural areas.
- SDL is a good solution for asymmetrical traffic to optimise the spectrum use efficiency. This indeed would enable operators thanks to carrier aggregation to use the full L-Band capacity for DL while taking advantage of the under-utilised UL capacity of lower bands below 1GHz (e.g. 700, 800MHz). For L-Band BS, it is possible and easy to increase the power to get a similar DL coverage than the 700MHz/800MHz BS, reuse related sites and benefit from related UL coverage.

Frage 17:

- Core L band (1452-1492MHz) i.e. Band 32, is already harmonized in Europe (EC and ECC decisions) using SDL and auctioned as such in several European countries (e.g. Germany, Italy, UK). Related BS and UE equipment are already available for immediate deployment in particular under Carrier aggregation with Band 800MHz.
- Europe is also finalizing harmonization of the extended L-Band 1427- 1517 MHz (+1MHz guard band up to 1518) based on SDL and with the same conditions applicable to both 4G and 5G (Technology neutral). Related Draft reports are already approved by CEPT and relevant public consultations are ongoing to allow final CEPT report and ECC decision by Q4 2017. Such accelerated plan is intended to give flexibility to operators to deploy such band either for LTE or 5G new Radio. Main European operators and Huawei are strongly supporting specification of such extended SDL band in 3GPP and the related specification work (Including CA with 800MHz) is expected to be finalized by Sept.17. Related equipment's are likely to hit the market by end of 2019 (provided depending on market demand)
- Regarding 5G New radio, the extended L-band 1427-1518MHz is in the list of bands for early deployment of 5G NR. Release 15 Specification is expected to be finalized by June 2018. The extended L-band products are likely to be available in the market before 2020 (depending on market demand).
- For the sake of avoiding spectrum fragmentation, we encourage releasing the full range 1427-1518MHz once all is harmonized and equipment is ready instead of starting with the core L-band (1452-1492 MHz) first and following with the extensions (1427-1452 MHz and 1492-1518 MHz).

3400–3800 MHz

Frage 19:

- The 3400-3800 MHz range is the primary 5G band in Europe (see RSPG Opinion on spectrum related aspects for next-generation wireless systems (5G), – Nov '16) the key band for the first introduction of 5G in Europe and globally.
- This frequency range offers an optimal balance between coverage and capacity, which will support a broad range of 5G applications, including: Augmented Reality/Virtual Reality (AR/VR), Ultra High Definition (UHD) video, smart home, smart manufacturing, health care and drones. This range will also provide both mobile connectivity "on the go" and Fixed Wireless Access (FWA / wTTx) for domestic and business applications.
- Globally, spectrum availability for IMT in the 3300-4200 MHz frequency range is increasing: 3400-3600 MHz is now almost globally available, and a large number of countries in different regions are taking action in order to reach 200-400 MHz of contiguous bandwidth in the 3300- 4200 MHz frequency range for 5G. This will be the largest contiguous bandwidth for IMT below 6 GHz.
- Parts of the 3300-4200 MHz range is being considered for early trials in a number of countries/regions in the world: trials in the 3400-3800 MHz frequency band are being

prepared for 2018 in Europe, there are ongoing trials in China (3400-3600 MHz) and Japan (3600-4200 MHz). Trials are also planned in Australia (3400-3600 MHz).

Frage 20:

- Time Division Duplex (TDD) method will be preferred for this frequency range, as the unpaired frequency arrangement better accommodates existing assignments to other services. TDD also has the advantage of supporting UL/DL traffic asymmetry, and provides an increased efficiency for massive multiple input multiple output (MIMO) technology by exploiting channel reciprocity.

Frage 21:

- This range offers a unique opportunity for spectrum availability below 6 GHz. The amount of spectrum that can be made available in this frequency range will be exploited by the latest international mobile telecommunications (IMT) technologies, in particular the 5G New Radio (5G-NR) air interface, to deliver increased capacity and a better experience to end users
- The 5G New Radio (5G-NR) is being designed to inherently take maximum advantage of wideband channels to deliver improved spectral efficiency, higher capacity and
- improved user experience. Wide contiguous nation-wide spectrum assignments to operators in the order of 100 MHz or more will allow operators to reap the full benefits of the 3300-3800 MHz frequency range for 5G
- To fully exploit the advantages from TDD, we recommend adopting common synchronization and alignment of UL/DL transmissions between operators, to avoid inter-operator interference.

Gerne stehen wir für Rückfragen zur Verfügung.
Freundliche Grüsse nach Bern.
Axel Menning

Best Regards, 祝你每天愉快

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