

UMTS Forum response to the Federal Network Agency consultation
on the draft decision regarding the award of spectrum in the bands
1.8 GHz, 2 GHz and 2.6 GHz
(Communication 219/2007)

The UMTS Forum represents a significant group of spectrum users, which are directly interested in the development of public mobile communication networks including UMTS/IMT-2000 and, especially, the related spectrum topics. UMTS Forum gathers many different players involved in third generation (3G) mobile communication systems, including equipment manufacturers, operators, administrations, service providers and software developers.

UMTS Forum appreciates the opportunity to express its views and concerns regarding the draft decision by the President's Chamber on the order for and choice of proceedings for the award of spectrum in the bands 1.8 GHz, 2 GHz and 2.6 GHz for digital cellular mobile communications under sections 55(9), 61(1) and (2), 132(1) and (3) TKG.

Please find below the UMTS Forum comments regarding specific aspects of the draft decision as described in communication 219/2007.

Objectively relevant market / frequency usage

Based on the estimated future traffic increase, UMTS Forum believes that there are predicted needs for the extension of the UMTS/IMT-2000 services in the band 2500 – 2690 MHz, and that harmonization is necessary to provide clarity, and generally having a predictable regulatory framework in place to be able to develop technologies and services in a timely manner.

UMTS Forum considers the band 2500 – 2690 MHz as the most important, and the only available, international extension band for UMTS/IMT-2000, which is going to provide for the evolution of IMT-2000 standards and services up the point in time where spectrum identified at ITU-R WRC-07 would be made available, perhaps around year 2015.

Furthermore we note that the 1.8 GHz and 2 GHz bands are currently used extensively by GSM and UMTS/IMT-2000 networks globally and those operations have to be protected from interference when awarding adjacent spectrum in those bands.

As a consequence UMTS Forum is concerned about the plans of the Federal Network Agency to dedicate these frequency bands uniformly to the frequency usages of digital cellular mobile communications without specifying certain standards.

UMTS Forum understands that the current legislation already provides a “technology neutral” policy, the international treaty text of the ITU-R RR Article 5 provides for a “technology neutral” approach, the ECC Decisions designating the 1.8 GHz, 2 GHz and 2.6 GHz bands to IMT-2000 allow for “technology neutral” implementation, the IMT-2000 Recommendation ITU-R M.1457 contains 5 standards with a sixth one currently being considered for inclusion. Accordingly UMTS Forum does not see the need for further flexibility beyond the IMT-2000 family concept.

Additionally, a general frequency usage of digital cellular mobile communications without the definition of a minimum set of technical and operational parameters for the various standards would endanger the coexistence and efficient spectrum utilisation of the various technologies. Such an approach would thus be in conflict with the overall policy goal of an efficient and interference-free spectrum use.

This aspect is also addressed by the European Commission in its draft EC Decision on the harmonization of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community which lists technical and operational requirements for the various standards to ensure coexistence with adjacent users.

On a more general note, the bands in question are internationally harmonized for terrestrial IMT-2000 systems and designated to UMTS/IMT-2000 within CEPT in accordance with ECC Decisions ECC/DEC/(05)05, ECC/DEC(06)01 and ECC/DEC(06)13. UMTS Forum is surprised that the Federal Network Agency, according to the ERO website listing, still has not committed itself to implement these Decisions, and wishes to encourage the Federal Network Agency to express this commitment to facilitate a harmonised regulatory framework within CEPT.

Geographically relevant market

UMTS Forum agrees with the view of the Federal Network Agency in regard of favouring national licenses, and understands that regional licenses would risk destabilizing the longer-term public mobile broadband communication business developments in this band. Additionally, national licenses in these internationally harmonized bands would better provide for roaming and seamless operations between countries while providing affordable devices and services to consumer benefiting from the economy of scale of devices and services.

Frequency blocks

According to 3GPP and ITU studies, guard bands are generally required between TDD and FDD sub-bands. In line with ECC Decision ECC/DEC/(05)05, UMTS Forum believes that any need for such guard bands should be taken within the sub-band 2570–2620 MHz. 3GPP concluded that, if TDD would be introduced in the sub-band 2570 – 2620 MHz, there is an estimated need to introduce a 15 megahertz guard band in the block 2570 – 2585 MHz and 10 megahertz guards band in the block 2610 – 2620 MHz. Consequentially UMTS Forum does not

share the view of the Federal Network Agency that ten block each of 5 MHz unpaired spectrum will be available in the 2.6 GHz band.

Unfortunately this would only allow properly for one TDD operator as to provide viable business cases there is normally a need to have several channels per operator. Therefore UMTS Forum sees a merit of referring TDD technologies to other bands, such as the band 3400 – 3600 MHz, 3600 – 3800 MHz, or perhaps the band 2300 – 2400 MHz. In that respect, we further note that other technologies, using TDD schemes have profiles that would allow for operations in other bands such as the bands 2300 – 2400 MHz and 3400 – 3800 MHz.

As an alternative, the 2570 – 2620 MHz should also be considered for a FDD downlink external channelling arrangement paired with spectrum in the 2 GHz range. Such a band pairing is currently being specified by ETSI MSG.

Frequency usage conditions

UMTS Forum strongly advocates the view that the bands 2500 – 2570 MHz and 2620 – 2690 MHz should only used for FDD. These internationally harmonized sub-bands would provide for international roaming, interoperability and seamless operations between countries. A possible mixture of duplex schemes, as suggested by one country in Europe, in these paired bands would make the interference situations and border coordination exceptionally complex and spectrum would be lost to guard bands and geographical restrictions.

UMTS Forum agrees with the Federal Network Agency on the general suggested spectrum arrangement regarding the paired sub-bands 2500 – 2570 MHz and 2620 – 2690 MHz as being essential for UMTS/IMT-2000 and its long term evolutions (LTE) system to provide the consumers with public mobile broadband communication services. These paired sub-bands will be essential to provide the more capable broadband services using wider channel bandwidth, but still adhering to the 5 megahertz channelling arrangement in accordance with ECC/DEC/(05)05

Based on the estimated future traffic increase for public mobile broadband communication services, UMTS Forum believes that there are predicted needs for the extension of the IMT-2000 services in the paired sub-bands 2500 – 2570 MHz and 2620 – 2690 MHz, and that harmonization to the channelling arrangements to adhere to the 5 megahertz structure is essential. For a mobile system and in a multi operator environment providing services for wide area coverage a FDD arrangement is superior over a TDD arrangement. This arrangement is supported by associated international regulations, such as ECC Decision ECC/DEC/(05)05. Further considering the evolution of UMTS/IMT-2000 towards UMTS/IMT-2000 LTE, it is important that operators could introduce wider and contiguous blocks of spectrum to be able to provide more capable services.

UMTS Forum agrees with the views of Federal Network Agency that Frequency usage conditions must be set in accordance with international framework conditions. However, we believe it is of utmost importance for these conditions to be defined prior to the spectrum award process. As also mentioned above, parameters like spectrum masks, as well as guard bands to adjacent channels and bands (TDD/FDD) depend on the standards that are considered for operation in the bands and are essential to evaluate the viability of specific deployment plans and associated investment decisions.



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As for the draft EC Decision referred to above, such frequency usage conditions will have to be defined based on sharing studies carried out by CEPT. Once such studies have proved coexistence of a given technology with existing and planned use in the bands in question under defined frequency usage conditions, this technology could be flexibly deployed in those bands.

Timing

Taking into account availability of technologies and the time span between licensing of spectrum and start of operation, UMTS-Forum considers the timing of the licensing as appropriate..

The band is identified for use on worldwide basis for terrestrial IMT-2000; therefore it could be beneficial to coordinate the timing of an award process and the availability with other countries.
