

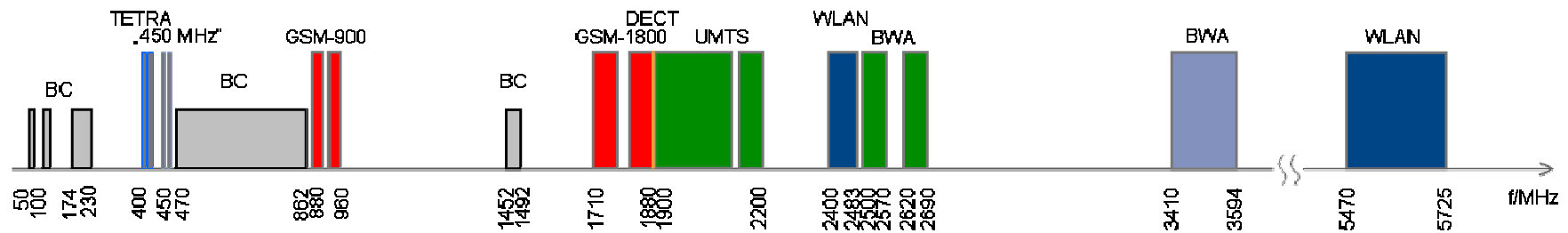
# Internationales zum Themenfeld Frequenzen

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## Inhalt

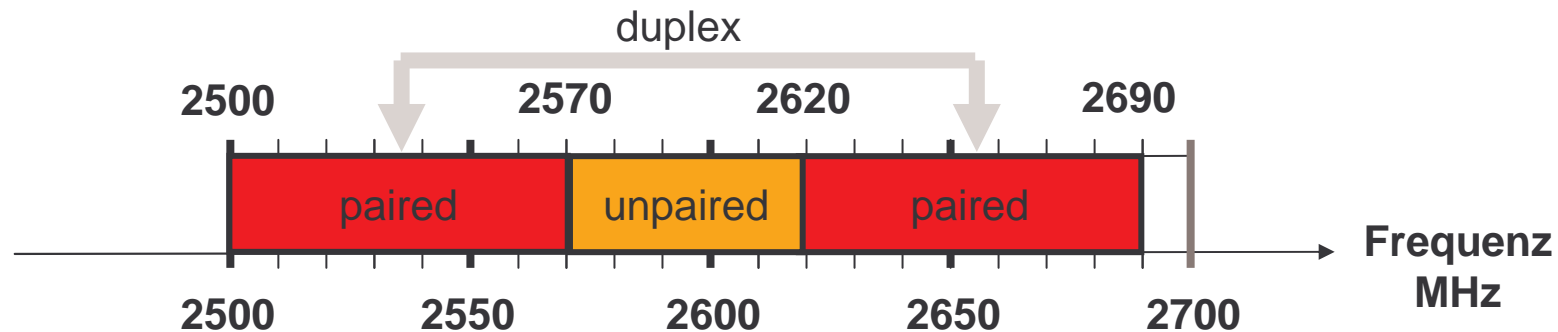
- 2,6 GHz Entscheidung
- 2,6 GHz Vergabe in Schweden
- 3,5 GHz Entscheidung
- MCA Entscheidung und Empfehlung





## 2,6 GHz Entscheidung (1)

- Das Radio-Spectrum-Committee hat am 3. April dem Entwurf der Kommissionsentscheidung zu 2,6 GHz zugestimmt. Mit dieser Entscheidung werden die frequenztechnischen Rahmenbedingungen für die Nutzung dieses Frequenzbandes auf der Basis von Block-Edge-Masks (BEM) festgelegt.
- Download:
  - [http://ec.europa.eu/information\\_society/policy/radio\\_spectrum/docs/ref\\_docs/rsc23\\_public\\_docs/rscom08-02.pdf](http://ec.europa.eu/information_society/policy/radio_spectrum/docs/ref_docs/rsc23_public_docs/rscom08-02.pdf)





# 2,6 GHz – Entscheidung (2)

## Article 1

This Decision aims at harmonising the conditions for the availability and efficient use of the 2500-2690 MHz band for terrestrial systems capable of providing electronic communications services in the Community.

## Article 2

- (1) No later than 6 months after entry into force of this Decision Member States shall designate and subsequently make available, on a non-exclusive basis, the 2500-2690MHz band for terrestrial systems capable of providing electronic communications services, in compliance with the parameters set out in the Annex to this Decision.
- (2) By way of derogation from paragraph 1, Member States may request transitional periods that may include radio spectrum sharing arrangements, pursuant to Article 4(5) of Decision 676/2002/EC.
- (3) Member States shall ensure that systems referred to in paragraph 1 give appropriate protection to systems in adjacent bands.

Auszüge aus der Entscheidung

The BEM for an unrestricted spectrum block is built up by combining Tables 1, 2 and 3 in such a way that the limit for each frequency is given by the higher value out of the baseline requirements and the block specific requirements.

Frequency range in which out-of-block emissions are received	Maximum mean e.i.r.p. (integrated over a 1 MHz bandwidth)
Frequencies allocated to FDD down link and +/- 5 MHz outside the range of frequency blocks allocated to FDD down link.	+ 4 dBm/MHz
Frequencies in the band 2500-2690 MHz not covered by the definition above.	- 45 dBm/MHz

Table 1: Baseline requirements - Base Station out-of-block e.i.r.p. BEM

Maximum in-block e.i.r.p.	+ 61 dBm/5MHz
Note: Member States can relax this limit to 68dBm/5MHz for specific deployments e.g. in areas of low population density provided that this does not significantly increase the risk of terminal station receiver blocking.	

Table 2: Block specific requirements - Base Station in-block e.i.r.p. BEM

Offset from relevant block edge	Maximum mean e.i.r.p.
Start of band (2500MHz) to -5 MHz (lower edge)	Baseline requirement level
- 5.0 to -1.0 MHz (lower edge)	+ 4 dBm/ MHz
- 1.0 to -0.2 MHz (lower edge)	+ 3 + 15( $\Delta_f$ + 0.2) dBm/30kHz
- 0.2 to 0.0 MHz (lower edge)	+ 3 dBm/30kHz
0.0 to +0.2 MHz (upper edge)	+ 3 dBm/30kHz
+ 0.2 to +1.0 MHz (upper edge)	+ 3 - 15( $\Delta_f$ - 0.2) dBm/30kHz
+ 1.0 to +5.0 MHz (upper edge)	+ 4 dBm/ MHz
+ 5.0 MHz (upper edge) to end of band (2690 MHz)	Baseline requirement level
Where: $\Delta_f$ is the frequency offset from the relevant block edge (in MHz)	

Table 3: Block specific requirements - Base Station out-of-block e.i.r.p. BEM



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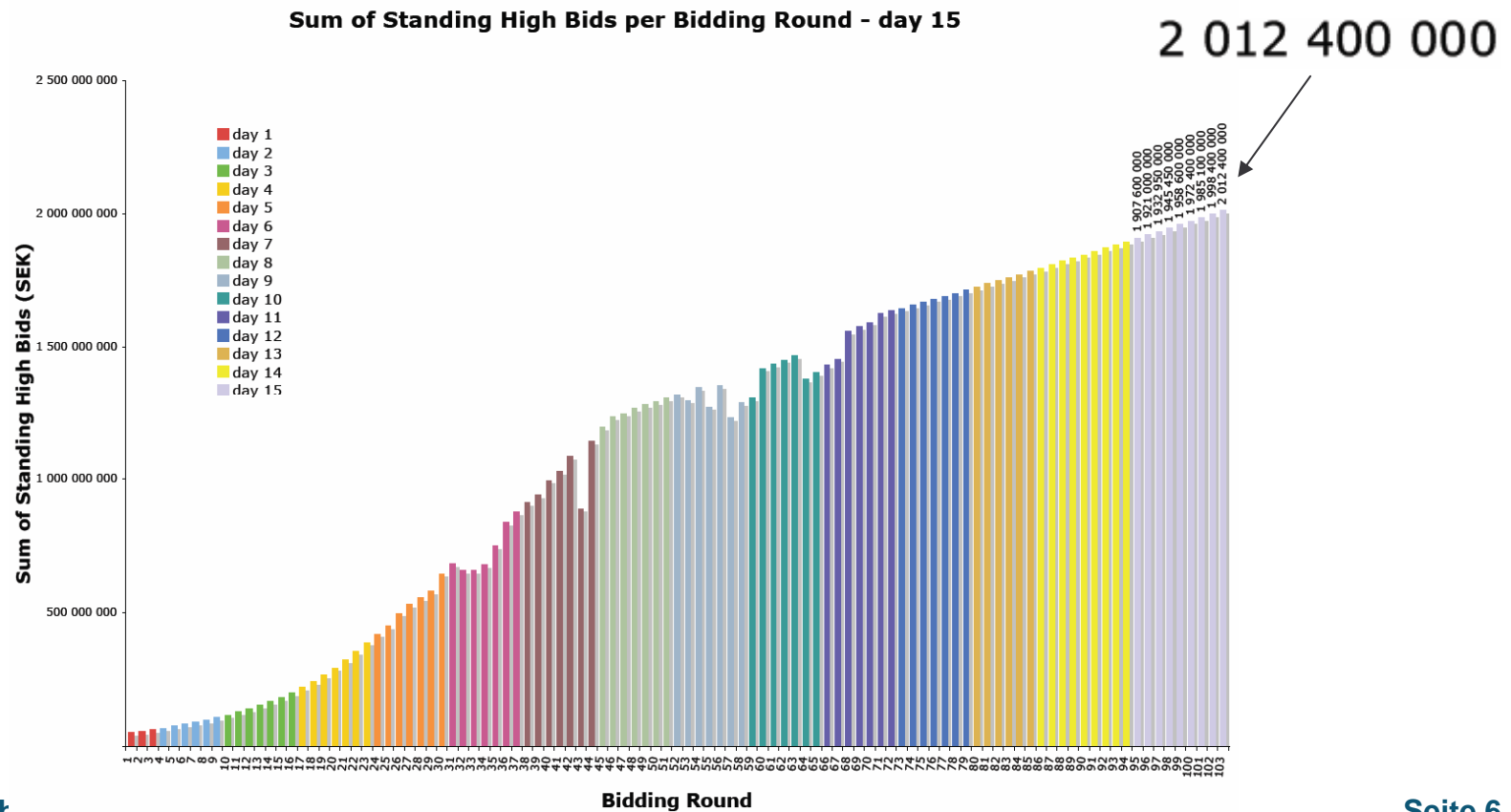
## 2,6 GHz Vergabe in Schweden

- Derzeit läuft Auktionsverfahren
- 14 FDD-Pakete + 1 TDD-Paket (2x70 MHz + 50 MHz)
- „electronic communications services“
- Laufzeit 31 Dec 2023
- Ausschreibung/Auktionsregeln (auch auf Englisch) unter
- <http://www.pts.se/en-gb/Industry/Radio/Licences%20in%202500-2690%20MHz/>



# 2,6 GHz Vergabe in Schweden

- Zwischenstand nach 15 Auktionstagen:

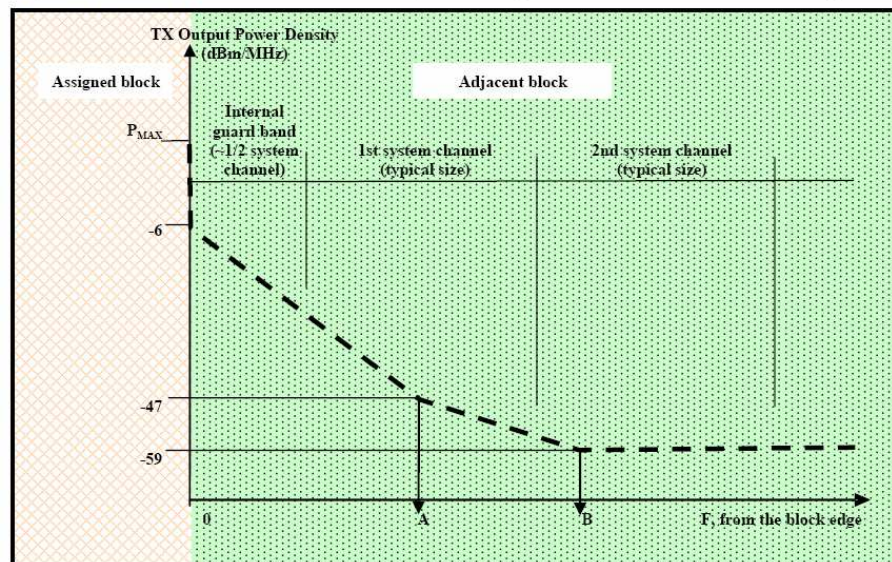




## 3,5 GHz-Entscheidung

- Beim selben Meeting des RSC wurde auch der Kommissionsentscheidung zu 3,5 GHz zugestimmt. Die Entscheidung ist sehr ähnlich zur 2,6 GHz-Entscheidung aufgebaut.
- Download:
  - [http://ec.europa.eu/information\\_society/policy/radio\\_spectrum/docs/ref\\_docs/rsc23\\_public\\_docs/rscom07-90\\_final\\_draft\\_decision\\_on\\_3400-3800\\_mhz.pdf](http://ec.europa.eu/information_society/policy/radio_spectrum/docs/ref_docs/rsc23_public_docs/rscom07-90_final_draft_decision_on_3400-3800_mhz.pdf)

B) Limits for out-of-block emissions (Block Edge Mask for Central Stations):



Auszug aus der Entscheidung



# MCA – Mobilfunkdienste an Board von Flugzeugen

## ■ 7 April 2008

- Recommendation on authorisation of mobile communication services on aircraft (MCA services) in the European Community
- Commission Decision on harmonised conditions of spectrum use for the operation of mobile communication services on aircraft (MCA services) in the Community

Download Empfehlung (2008/295/EC)

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:098:0024:0027:EN:PDF>

Download Entscheidung (2008/294/EC)

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:098:0019:0023:EN:PDF>





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# MCA – Lizenzierung

3. Not later than six months after adoption of this Recommendation, Member States should take all steps necessary to be able to authorise provision of MCA services in aircraft registered within their jurisdiction.

Member States should authorise MCA services in accordance with the principles set out in this Recommendation. No provision in this Recommendation should be contrary to maintaining optimum air safety conditions.

Member States should require no additional authorisation for operation of MCA services above their territory in aircraft registered in other Member States in compliance with the conditions agreed pursuant to point 4.

MCA services in aircraft registered outside the Community should also be exempted from authorisation in the Community, provided such services are in compliance with the conditions agreed pursuant to point 4 and registered in accordance with the relevant ITU rules.

Auszug aus der Empfehlung, Art. 3



# MCA – genutzte Frequenzbänder

## FREQUENCY BANDS AND SYSTEMS ALLOWED FOR MCA SERVICES

Table 1

Type	Frequency	System
GSM 1800	1 710-1 785 MHz and 1 805-1 880 MHz (the 1 800 MHz band)	Complying with the GSM Standards published by ETSI, in particular EN 301 502, EN 301 511 and EN 302 480, or equivalent specifications.

Annex 1



# MCA – Network Control Unit (NCU)

## PREVENTION OF CONNECTION OF MOBILE TERMINALS TO GROUND NETWORKS

During the period when operation of MCA services is authorised on an aircraft, mobile terminals receiving within the frequency bands listed in Table 2 must be prevented from attempting to register with mobile networks on the ground.

Table 2

Frequency band (MHz)	Systems on the ground
460-470	CDMA2000, FLASH OFDM
921-960	GSM, WCDMA
1 805-1 880	GSM, WCDMA
2 110-2 170	WCDMA

Annex 2



# MCA – Minimale Höhe

## Article 4

The Member States shall set the minimum height above ground for any transmission from an MCA system in operation in accordance with section 3 of the Annex.

Member States may impose greater minimum heights of MCA operation where justified by national topographical and ground network deployment conditions. This information, supported by appropriate justification, shall be notified to the Commission within four months of adoption of this Decision and shall be published in the *Official Journal of the European Union*.

*Equivalent isotropic radiated power (e.i.r.p.), outside the aircraft, from the onboard terminal*

The e.i.r.p., outside the aircraft, from the GSM mobile terminal transmitting at 0 dBm must not exceed:

Table 4

Height above ground (m)	Maximum e.i.r.p., outside the aircraft, from the GSM mobile terminal in dBm/channel
	1 800 MHz
3 000	- 3,3
4 000	- 1,1
5 000	0,5
6 000	1,8
7 000	2,9
8 000	3,8

### Operational requirements

- I. The minimum height above ground for any transmission from a GSM 1800 MCA system in operation must be 3 000 metres.
- II. The aircraft BTS, while in operation, must limit the transmit power of all GSM mobile terminals transmitting in the 1 800 MHz band to a nominal value of 0 dBm at all stages of communication, including initial access.

Auszug aus Annex 3



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## MSS 2GHz

- Stand COCOM 23.4.2008
  - Einigung im Rat und im EP Ausschuss, daher Zustimmung des Textes voraussichtlich in 1. Lesung (19.5.) und Verabschiedung im Ministerrat am 12. Juni 08.
  - Nach der Sommerpause soll die Ausschreibung erfolgen.



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Fragen?