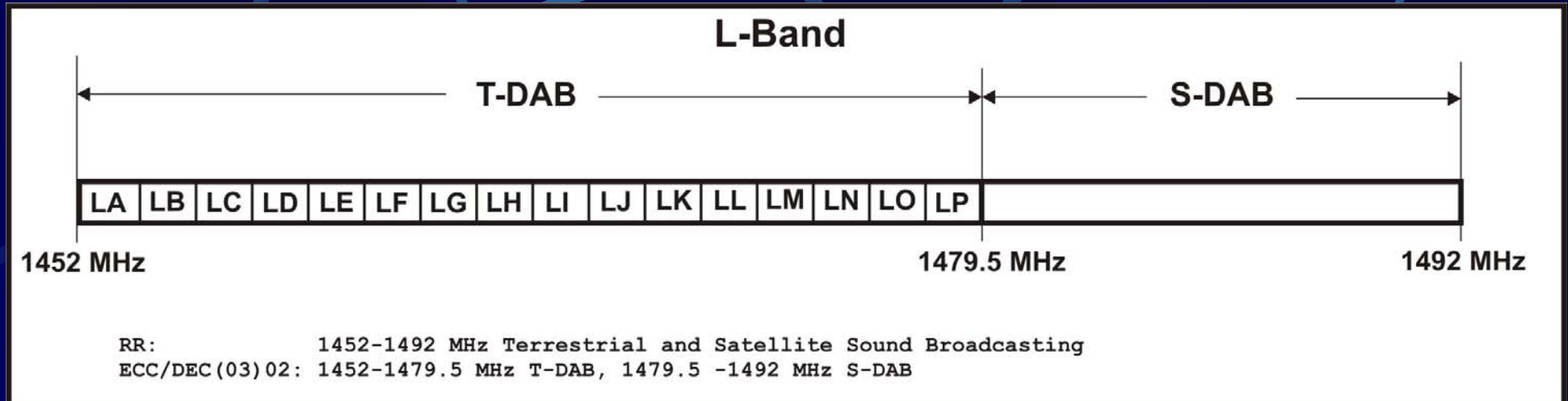


Resurrecting the Maastricht 1.5 GHz plan for mobile multimedia

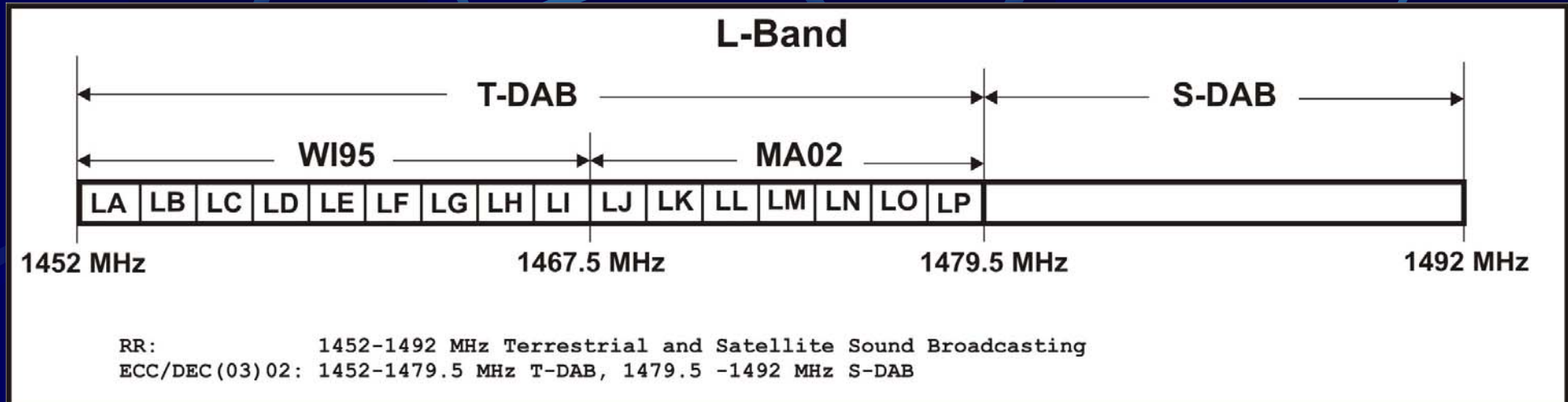
Dr. Roland Beutler

**Südwestrundfunk
Frequenz- und Versorgungsplanung**

The CEPT Arrangement MA02



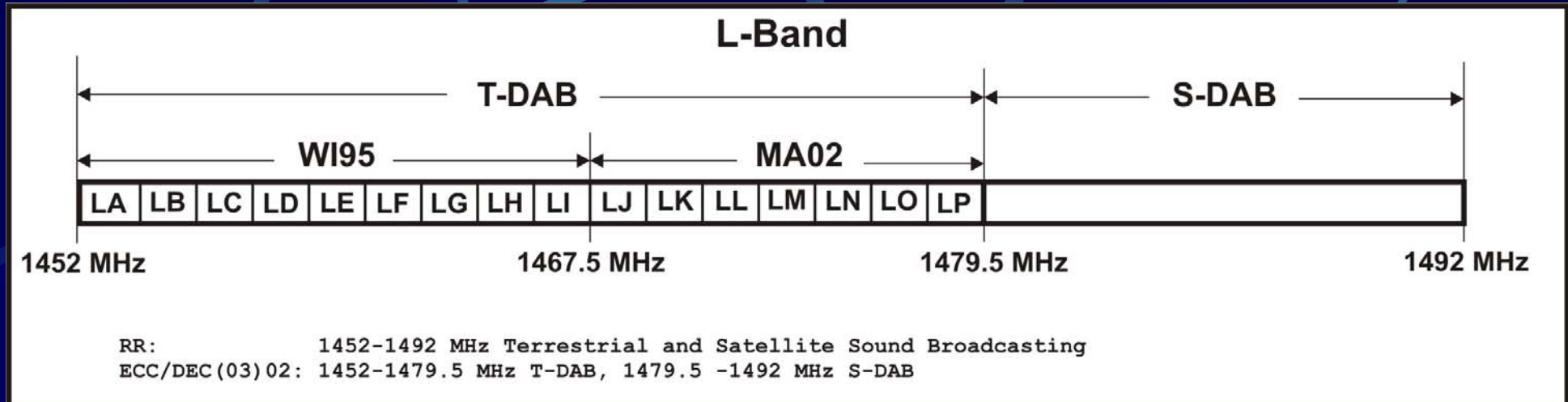
The CEPT Arrangement MA02



Two Planning Conferences:

- CEPT T-DAB Planning Conference Wiesbaden 1995
→ 1452 MHz – 1467.5 MHz for one (two) nationwide coverage(s)
- CEPT T-DAB Planning Conference Maastricht 2002
→ 1452 MHz – 1479.5 MHz one nationwide coverage

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Allotment Planning:

- new planning concept for terrestrial broadcasting
→ allows highly flexible network planning

Status Quo of Implementation of MA02 (August 2006)

Summary of information in ERO data base:

	Plan entries deriving from WI95		Plan entries originating from MA02	
	Allotments	Notifications	Allotments	Notifications
Total	501	1082	1909	1
D	108	1025	112	--
F	134	45	67	--
SUI	33	12	17	--
NOR	1	--	83	1
Other	225	--	1613	--

EC Mandate to CEPT



EUROPEAN COMMISSION
Information Society and Media Directorate-General
Electronic Communications Policy
Radio Spectrum Policy

Brussels, 12 OCT. 2006
DG INFSO/B4

FINAL

MANDATE TO CEPT ON EU HARMONISATION OF THE BAND 1452-1479.5 MHz (LOWER PART OF L-BAND) TO ALLOW FLEXIBLE USE BY MOBILE MULTIMEDIA TECHNOLOGIES

This mandate is issued to the CEPT without prejudice to the one-month right of scrutiny by the European Parliament, pursuant to Council Decision 1999/468/EC of 28 June 1999 (OJ L 184, 17.7.1999, p.23) on comitology procedure. This one-month period starts on 10 October 2006.

1. PURPOSE

To mandate CEPT to identify appropriate technical regulatory parameters for the opening up and EU harmonisation of the band 1452 to 1479.5 MHz (lower part of L-band) to allow flexible use by a wide range of mobile multimedia technologies.

Key Issues of EC Mandate to CEPT

Intention:

- introduction of mobile multimedia technologies on a pan-european level
→ but no spectrum available consistently throughout Europe

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Order and schedule:

- make an assessment of the technical and regulatory issues that need to be revised in order to share the lower L-Band between T-DAB and mobile multimedia
- recommend provisions to introduce these services in accordance with MA02
- submission of a report 1 April 2007

Report of WGFM PT45

Problem:

EC mandate refers to „mobile multimedia services or technologies“

→ is not specified in detail !!!

→ how to incorporate more flexibility into MA02 without knowing the conditions?

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→ how to incorporate more flexibility into MA02 without knowing the conditions?

Solution:

revision of the MA02 Arrangement by including provisions for:

- MA02 remains a T-DAB allotment plan
- the application of a more stringent spectrum mask for out-of-band emissions
- the application of an envelope concept
- the aggregation of T-DAB blocks to accommodate mobile multimedia services with wider bandwidth

Spectrum Masks

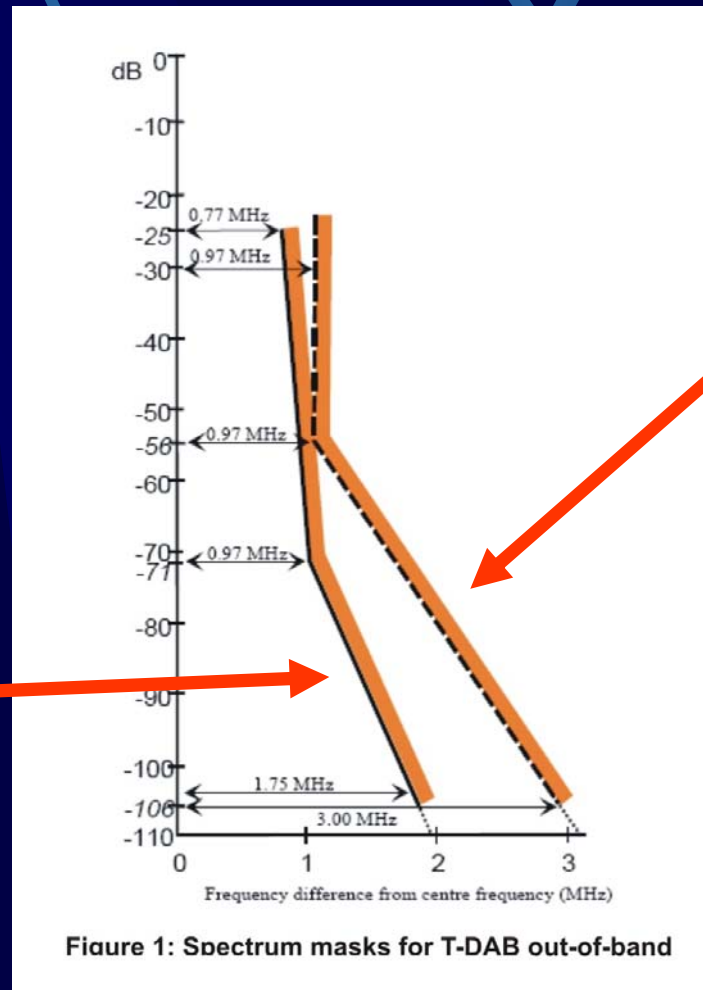
Introduction of an additional more stringent out-of-band spectrum mask:

Addition of Paragraph 2.3.1 in Annex 2:

”The out-of-band radiated signal in any 4 kHz band shall be constrained by the masks defined in Figure 1.”

Spectrum Masks

Introduction of an additional more stringent out-of-band spectrum mask:



Case 1

Case 2

Spectrum Masks

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Addition of Paragraph 2.3.1 in Annex 2:

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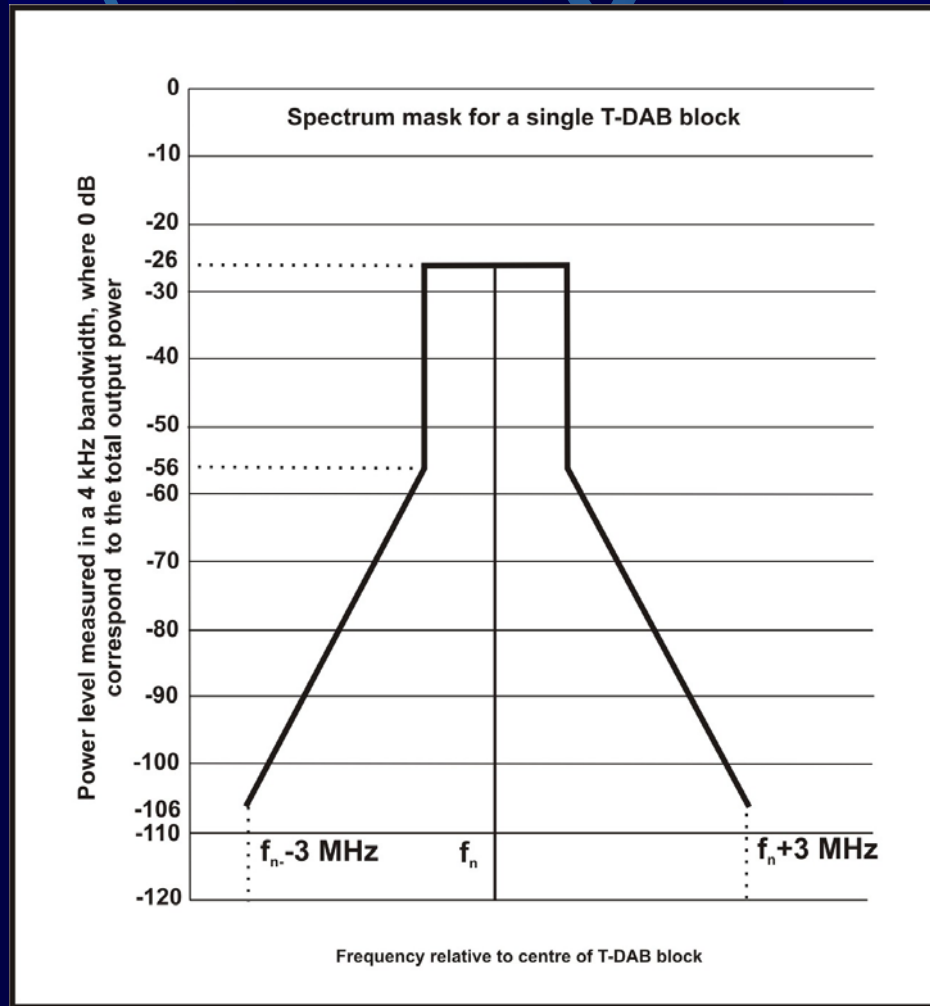
Addition of Paragraph 2.3.2 in Annex 2:

”When using a single T-DAB frequency block the radiated signal in any 4 kHz bandwidth should be constrained by the mask defined in Figure 2 based on the out of band spectrum mask defined by Case 2 in Figure 1. Contracting Administrations may elect to apply a mask based on the out of band spectrum mask defined by Case 1 in Figure 1.

Case 1 or Case 2 masks may be applied independently at either band edge of a T-DAB frequency block.“

Spectrum Masks

Addition of figure 2 in Annex 2:



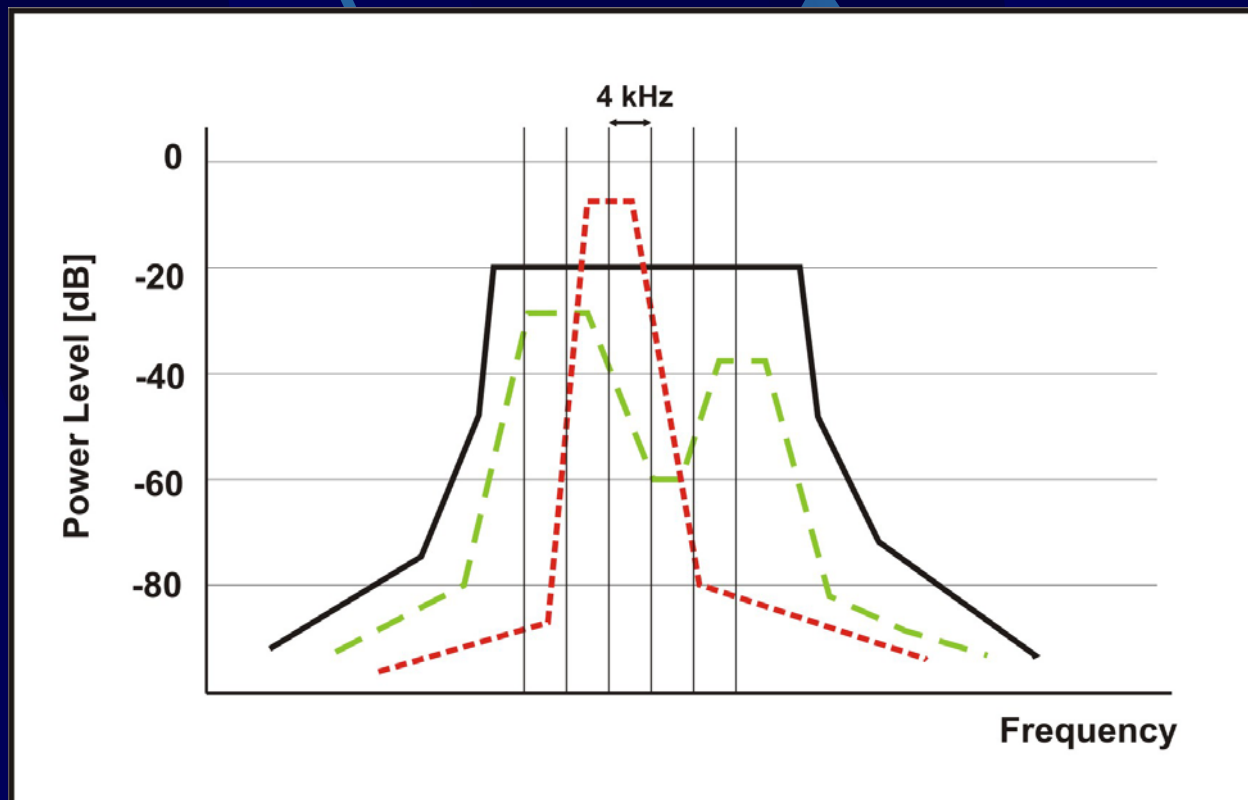
Envelope Concept in MA02

Addition of Paragraph 2.4:

”The T-DAB Plan entries may be used for terrestrial mobile multimedia services with characteristics that may be different from those appearing in the Plan but within the envelope of their T-DAB Plan entry or aggregate entries under the provisions of the Special Arrangement, and that their administrations agree that any such use will be afforded protection to the levels defined by the interfering field strengths as arising from their Plan entries, taking into account any relevant bilateral agreements.”

Envelope Concept in MA02

Introduced for the first time in GE06 under §5.1.3:



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Addition of Paragraph 6.1.2:

“Services brought into use under the terms of paragraph 2.4 shall not cause more interference nor claim more protection than the relevant T-DAB allotments in the Plan. ... ”

Aggregation of T-DAB Blocks

MA02 remains a T-DAB plan:

mobile multimedia might occupy larger bandwidths

→ provisions for aggregating adjacent T-DAB blocks

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Addition of Paragraph 6.1.2:

“... Systems with a bandwidth greater than one single T-DAB frequency block may be brought into operation by aggregating contiguous T-DAB frequency blocks which appear in the Plan under the conditions given in Annex 2.”

Aggregation of T-DAB Blocks

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→ provisions for aggregating adjacent T-DAB blocks

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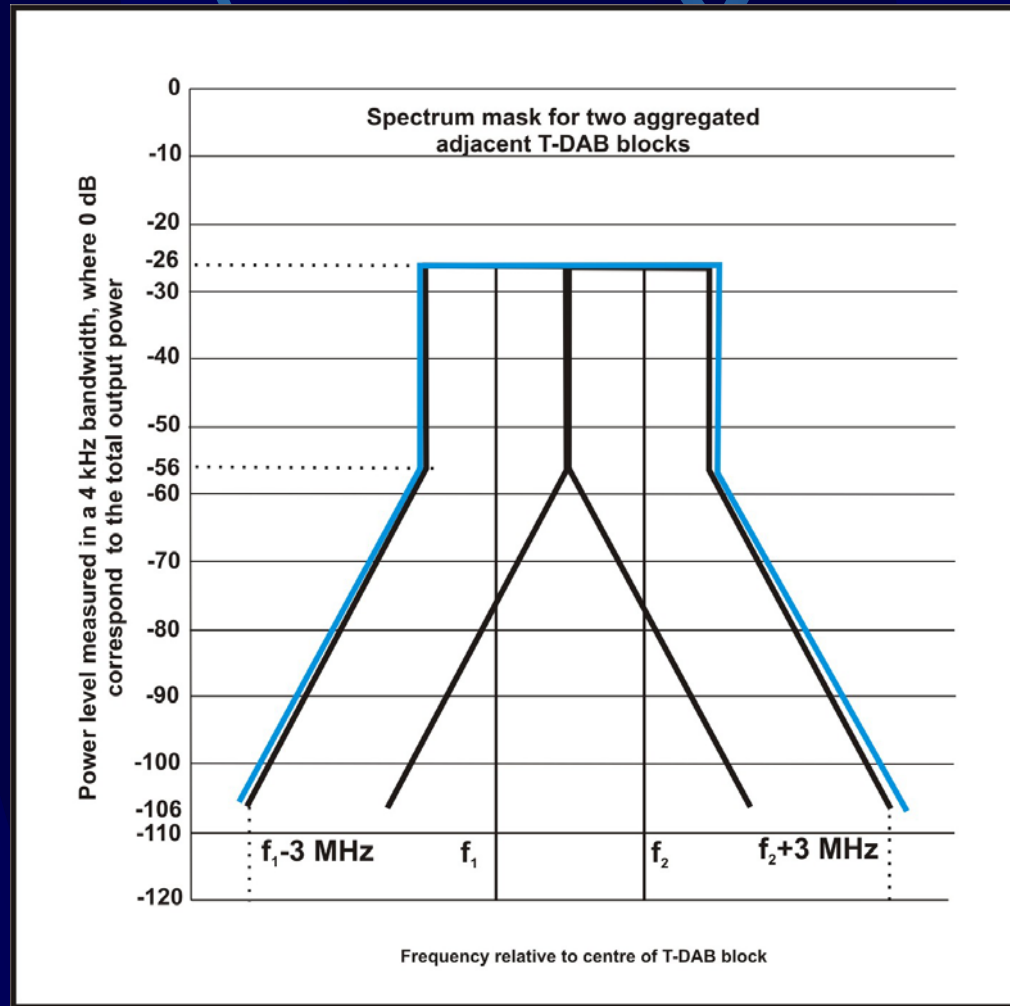
Addition of Paragraph 2.3.3 in Annex 2:

“If a system is to be brought into operation in accordance with paragraph 6.1.2 the radiated signal between the edges shall not exceed the limit as defined by the blue line in Figure 3 (example of two aggregated T-DAB frequency blocks).

Case 1 or Case 2 masks may be applied independently at either band edge of aggregated T-DAB frequency blocks.

Aggregation of T-DAB Blocks

Addition of figure 3 in Annex 2:



Revision of MA02

FINAL ACTS

of the CEPT Multi-lateral Meeting
for the frequency band 1452 - 1479.5 MHz

Constanța, 2007

(MA02revCO07)

For the revision of the Special Arrangement of the
European Conference of Postal and Telecommunications Administrations (CEPT)
relating to the use of the band 1452 – 1479.5 MHz for
Terrestrial Digital Audio Broadcasting (T-DAB), Maastricht, 2002

Resurrection or Stillbirth?

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More flexibility:

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- two spectrum masks
- envelope concept
- aggregation of T-DAB blocks

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- MA02 = allotment plan
- two spectrum masks
- envelope concept
- aggregation of T-DAB blocks

But:

- technical details missing (planning parameter)
- details of assessment of envelope concept missing

**Thank you very much
for your attention !**