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Inform IEEE 802.16 about the TM4 work, as Jersey plenary output
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ETSI TM4 Liaison Report

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Contents

- TM4 Jersey plenary
- WP2 Outputs
- Stable drafts in P-MP and Antenna
- New work items in P-MP and Antenna
- Coexistence documents

Jersey 23 Plenary

- Aprox. 100 participants
- 50% National Radio Regulatory bodies and Service Providers
- 70 input papers
- 11 approved documents

WP 2 outputs

- **Annex 01-List of Participants**
- **Annex 02-List of input documents**
- **Annex 03-List of output documents(attached to chairmans report)**
- **Annex 04-31GHz liaison to SE19/EP-BRAN**
- **Annex 05 – PMP technical report on cross-compatibility NFD values**
- **Annex 06-Liaison to IEEE 802.16**
- **Annex 07-TDD study final document(TM-4087)**
- **Annex 08-Liaison to EP-BRAN(response to TD 58)**
- **Annex 09-TM-4099 final document**
- **Annex 10-New work item for 31GHz MWS(TM-4116)**
- **Annex 11-TM-4097 latest draft**
- **Annex 12-TM-4103 26GHz Part 4-CDMA final document**

WP2 outputs – cont.

- **Annex 13-TM-4106 final output(part 3 to rev.EN301 213) including corrections**
- **Annex 14-TM-4110 final output rev.toEN301021**
- **Annex 15 -Liaison to SE19 on 40GHz block edge mask**
- **Annex 16- TM-4069 final document**
- **Annex 17 - Generic wording final document**
- **Annex 18 – New work item for 31GHz MP-MP systems**
- **Annex 19- New work item to add MP-MP option to EN301 213 part 1**
- **Annex 20 – Conformance Testing Rev. for multi-carrier systems**
- **Annex 21 – New work item rev.EN 301080 for 16 level systems TM-4117**
- **Annex 22 – New WI for editorial changes to EN 301 213-1 to accommodate TM-4099 and TM-4103**
- **Annex 23 – New WI for editorial changes to EN 301 213-3**
- **Annex 24 - Report TD29 on BER/ATM evaluation and testing(Marco Spini)**

Stable drafts for AbC

WI	Name	File
DTR/TM-4087	**TDD Report**	**23-0307rev1**
DEN/TM-4099	**EN 301 213-5 MC-TDMA Multicarrier in 24.5 – 29.5GHz**	**23_0309**
DEN/TM-4103	**DS-CDMA 24.25 – 29.5 GHz**	**23_0312**
DTR/TM-4069	**Coexistence report**	**23_0316**
REN/TM-4106	**Rev EN 301 213-3 TDMA 24.25 – 29.5GHz**	**23_0313**
REN/TM-4110	**Rev EN 301 021 TDMA 3-11GHz, for High coexistence and OFDM**	**23_0314**
DEN/TM-4057-3	**EN 301 215-3 Antenna 40.5 – 43.5GHz**	**23_0501clear_rev1**
REN/TM-4109	**rev EN 301 215-1 Antenna 11-60GHz – General aspects**	**23_0502clear_rev1**
DTR/TM-4032-2	**Generic wording**	**23_0317**

New Work Items

5.2	**New WI for Steerable antennas**	**23_0506**	**DTR/TM-4115 Confirmed as TR**
5.4	**New WI for 32 GHz P-MP antennas**	**23_0504**	**DEN/TM-4057-4 (EN 301 215-4) "coverage of bands HDFS around 32 GHz, pending confirmation by CEPT")**
5.5	**New WI for revision of EN 301 080**	**23_0321**	**REN/TM-4117 Approved as amended**
5.7	**New WI for 32 GHz MWS**	**23_0310**	**DEN/TM-4116 Approved as amended (note on confirmation by CEPT on the band usage)**
5.8	**New WI for TR on MP-MP systems**	**23_0318rev1**	**DTR/TM-4120 Approved**
5.9	**New WI for TR on cross-system NFD in P-MP application**	**23_0305**	**DTR/TM-4121**
5.11	**New WIs for editorial revisions of EN 301 213-1to3 (due to approval of part 4 & 5)**	**23_0322** **23_0323**	**-Part 1: Approved,** **-Part 2: Mr Bourdon will check** **-Part 3: REN/TM-4123 Approved for removing provisional requirements for MC-TDMA, now in part 5**
5.12	**New WI for Multicarrier P-MP Conformance test**	**23_0320**	**DEN/TM-4026-2-6 Approved.**
5.13	**New WI for revision of EN 300 833 in the 32 GHz antenna requirements**	**Plenary discussion**	**REN/TM-4122. Due to the approval of revision of EN 300 197 (inclusion of 32 GHz P-P) some members express the necessity of revising and improving the P-P antenna requirements**

26GHz TDMA standard

- Modified for the High Coexistence type
- Defines masks for single carrier and multiple carriers using the same modulation
- Defines capacity requirements
- Defines sensitivity, co-channel and adjacent channel requirements
- Other parameters: common for 26GHz-

in EN 301 213-1

26GHz MC-TDMA

- Intended for multi-carrier systems
- Each carrier can use different power levels and modulations
- The masks are derived from co-existence considerations
- Other parameters: common for 26GHz-

in EN 301 213-1

Coexistence Documents - 1

- **DETR/TM-04069**
- Rules for the co-existence of point-to-point and point-to-multipoint systems using different access methods in the same frequency band

DETR/TM-04069 - General

- Section 5
  - all the possible combinations (classes) of interference between two P-MP systems and between a P-P and a P-MP system.
- Sections 6 and 7
  - contain the methodologies to analyse the different classes of interference identified in the report.
- Sections 8 and 9
  - summarise the conclusions regarding the co-existence of P-MP and P-P

DETR/TM-04069 – Rules

- systems with similar channel size co-exists better than systems with different channel size

- a minimum distance and angular decoupling between P-P site and CRS should be provided

- the use of ATPC on the P-MP uplink decrease the level of interference

DETR/TM-04069 – Parameters

In order to accomplish a co-existence analysis as close as possible to reality it is necessary to have EN limits on system parameters as close as possible to actual system parameters such as:

- - transmit power
- - receiver threshold
- - interference sensitivity
- - transmitter mask

In fact, the results of the co-existence analysis carried out in the annex point out a significant difference whether actual parameters or EN limits are used.

DETR/TM-04069 – Parameters – cont.

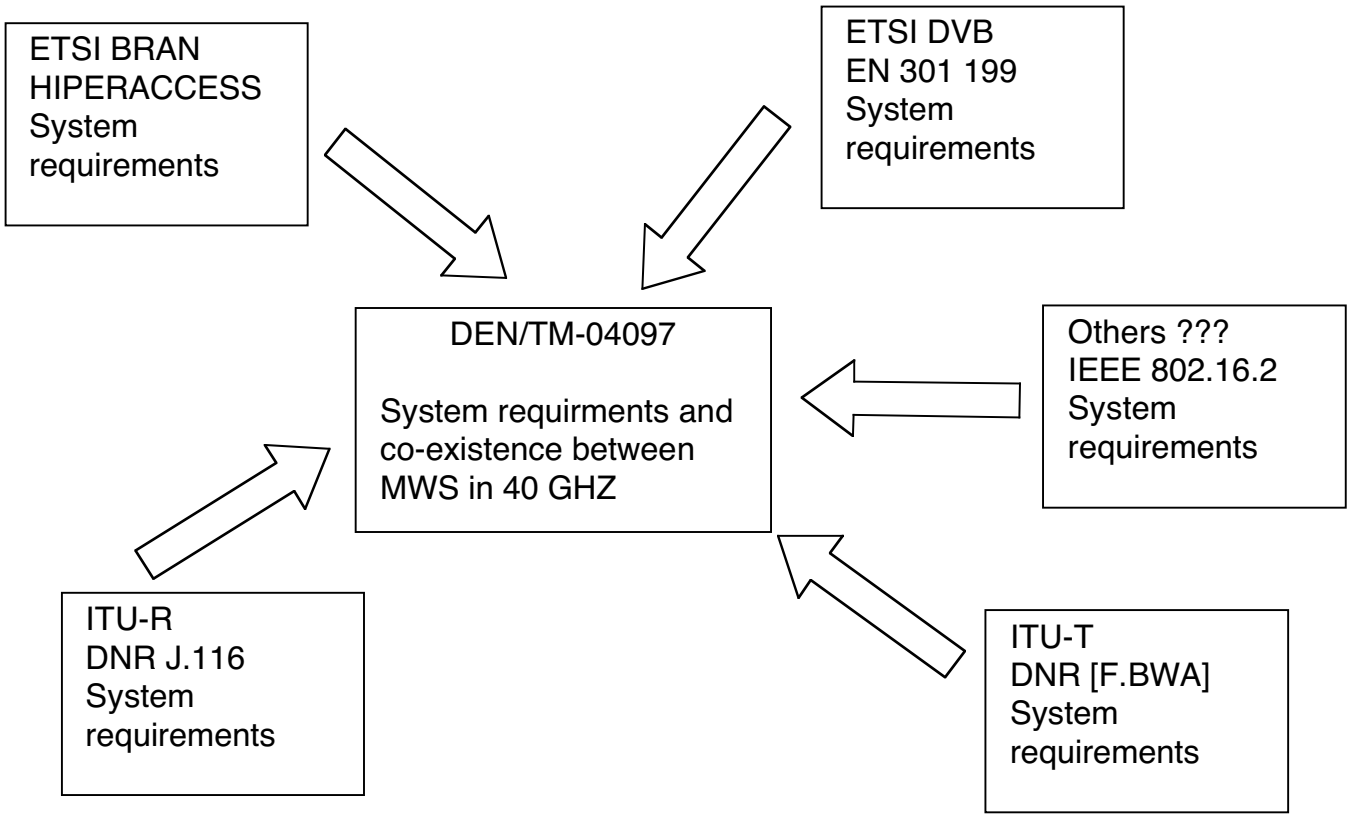
In order to accomplish the co-existence analysis it is necessary to have the possibility to evaluate the cross NFD between different systems (even between a P-P and a P-MP system) compliant with different standards. Therefore, it is necessary to have in the EN's the following parameters:

§ - transmitter mask

§ - receiver sensitivity mask.

The first one is directly available in the EN's while the second is not. This report suggest to introduce in the EN's or receiver sensitivity masks or a way to derive this parameter directly from the EN's.

DEN/TM 4097 – MWS in 40GHz



Frequency Plan

- - both FDD and TTD systems
- - both full duplex and half duplex options
- - both symmetric and asymmetric operation
- - various equipment channel spacing

Coordination aspects

- to be included in an informative annex. SE19 is still considering the proposals from TM4 on block edge masks and has sent a partial reply
- Guidance on the choice of block – edge masks
- Summary of typical co-ordination scenarios
- Guidance on geographical spacing of co-channel systems
- Guidance on frequency separation of systems in the same or overlapping areas
- Reference to and extracts from: ETSI reports, ERC reports and the IEEE 802.16.2 coexistence practice, BRAN HIPERACCESS information

BRAN HIPERACCESS parameters

- TDMA system
- 28 MHz channels, adjacent co-polar for both uplink and downlink
- possibility of a 14 MHz uplink channel size
- *Adaptive modulations* ranging from 4QAM (lower modulation) up to 16 QAM (for uplink) and 64 QAM (for downlink). This means that on the same carrier we have different modulation schemes for different time slots.

TDD Study DTR/TM 04087

- Clause 4:
  - reviews the attributes of Time Division Duplex (as opposed to Frequency Division Duplex) in the context of in Fixed Wireless Access systems.
  - identify several positive features of TDD, but recognizes that FDD claims benefits in simplifying frequency management.

Clause 5

- discusses deployment issues of Fixed Wireless Access systems, which are influenced by typical FWA regulatory regimes, in contrast to Point to Point and Cellular Mobile systems.

Clause 6

- addresses inter-system interference between different TDD systems and between TDD and FDD FWA systems
- It is concluded that it is not at all easy to make general statements about the impact of duplex method on interference – and, in appropriate circumstances, TDD FWA systems can coexist with other TDD systems or with FDD systems in adjacent frequencies without undue interference.

Clause 7

- addresses the question of “selection, modification or addition parameters” needed to be specified in Standards for TDD FWA
- It concludes that so long as capacity is defined in terms of gross bit rate and provided that TDD is not explicitly precluded by specifying explicit transmit–receive frequency separation, no further parameters need to be specified in coexistence equipment standards of the kind prepared by ETSI WG TM4.

Clause 8

- specific recommendations are made :
  - Not to change equipment standards in respect of specific TDD issues.
  - To avoid, as far as possible, the creation of separate versions of standards for FDD and TDD equipment.
  - To specify traffic capacity in P-MP standards in terms of "gross bit rate" so as to be equally appropriate to TDD and FDD systems.