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To: Dr Roger Marks, Chairman IEEE802.16
Copy: WG ERM-RM

From: Dr Roberto Macchi, Chairman ETSI TM4

Response to Liaison Letters 802.16l-00/38 and 802.16l-00/20

Dear Roger,
ETSI Working Group TM4 thanks you for your liaison letters and the opportunity to review and comment upon your draft Recommended Practice for Broadband Wireless Access Systems (802.16.2/D1-2000). During the recent WG-TM4 Plenary meeting, the document was reviewed in both Working Party 2 who deal with fixed wireless access equipment standards and also Working Party 4 who deal with antenna standards for fixed systems.

Regarding the specific issue of the inclusion of copyright material in your document, you will receive a reply granting the required permission from the ETSI legal adviser in a separate liaison reply.

Editorial Comments on Document 802.16.2/D1-2000
Regarding the specific ETSI material included, the following editorial changes are requested:
1) On page 42, line 7 delete "CEPT/". CEPT is a separate body to ETSI.
2) EN 301 390 has completed the ETSI processes and is therefore now published. Please delete the word "Draft" on page 42, lines 7 and 14.

WG-TM4 has taken the opportunity to review your draft and has the following additional editorial comment. In order to help with the global applicability of the practice document the following text is proposed for Page 81, line17:
Add new sub-section:
"*A.3 European Conformance Test Standards*

ETSI has published a standard, in a number of parts, that deals in detail with the conformance testing procedures for Fixed Wireless Access equipment. EN301-126-2-1 to 5, titled "Fixed Radio Systems; Conformance Testing;", has the following parts:
Part 1: "Point to Multipoint equipment; Definitions and General Requirements"
Part 2 covers FDMA equipment.
Part 3 covers TDMA equipment.
Part 4 covers Frequency Hopping CDMA equipment.
Part 5 covers Direct Sequence CDMA equipment.
Additionally drafting activity on a part 6 is complete catering for Multi-Carrier TDMA equipment.
Copies of the published standards are available for download from the ETSI Web Site."

These editorial comments have been submitted through our TM4- IEEE802.16 Liaison Officer.

WG-TM4 Antenna Working Party
The practice document was reviewed by the antenna working group within TM4 who, recognising that different approaches or emphasis may have been considered during the work of 802.16.2, have made the following observations:

- Antenna gain figures have not been recommended by IEEE. (e.g. minimum boresight gain).
- The approach taken to define the CS antenna elevation RPE in ETSI standards differs from that recommended in the practice document in that the ETSI standards

- Examination of the recommended masks in the practice document showed them to be generally more stringent than those defined in ETSI standards. This suggests that larger antennas have been considered during the IEEE study than those generally considered for multipoint applications covered by ETSI standardisation.

Noting the reference to future antenna systems in paragraph 9.7.6 you may be interested in the following new work items recently approved within TM4:

New Work Items DEN/TM04115 "Fixed Radio Systems P-MP Antennas; Electronically Steerable Antennas for P-MP Fixed Radio Systems in the 3GHz to 11GHz Band" and DEN/TM04108 "Fixed Radio Systems Multipoint Antennas; Antennas for Multipoint Fixed Radio Systems operating in the 1GHz to 11GHz Band with Circular Polarisation".
These new work items covering the antenna equipment parameters and conformance testing have been approved by the WG-TM4 and will be added to the work programme. This has followed the completion of drafting of Technical Reports which examine the suitability of these antenna technologies for standardisation.

Update on other WG-TM4 Work Items
Finally we would like to take the opportunity to update you on progress of some other WG-TM4 work items detailed in our previous liaison (802.16l-00/15) which may be of interest to your task groups:

Status of Work Item DTR/04069 "Point-to-point and point-to-multipoint equipment;Rules for the co-existence of point-to-point and point-to-multipoint systems using different access methods in the same frequency band"
This work item is now complete and the report has been published as TR101-853. It is available for download from the ETSI web-site. The report considers co-existence issues in frequency bands from 3.5GHz to 28GHz and a summary is included in Annex D of your practice document.

Status of Work Item DEN/TM04097 "Radio equipment for use in Multimedia Wireless Systems (MWS) in the band 40.5GHz to 43.5GHz"
This TM4 work item, previously presented in 802.16.2 is addressing Multimedia Wireless Systems (MWS) in the 40GHz band. Drafting has continued to define the necessary co-existence parameter values for the range of MWS systems envisaged in close co-operation with the European regulatory bodies who are defining the frequency planning guidelines. A key issue under discussion is that of defining a frequency block edge mask which will allow equipment deployment in block with the minimum of inter-operator co-ordination. The document is currently in the form of a complete draft whose finalisation depends only on verification of the frequency block edge mask issue.

Status of Work Item DEN/TM04116 "Point to Multipoint Systems; Parameters for systems in the band 31.0 to 33.4GHz"
Work continues on this draft standard covering systems operating in the frequency range 31GHz to 33.4GHz. The parameters under consideration are consistent with a draft channel plan for the band 31.8 to 33.4GHz which has been developed within CEPT and ITU supporting channel bandwidths ranging from 3.5MHz up to 56MHz. The work item scope includes frequency range "sub-bands" 31.0 to 31.3GHz and 31.5 to 31.8GHz which may be available in certain countries and it is assumed that similar channelisation will be applicable. The work item is currently in the form of a first draft with issues regarding emission and receiver selectivity masks outstanding.

Kind Regards

Dr Macchi
Chairman ETSI WG-TM4