Proposal by ETSI BRAN (BRAN39d058r1)

The following text is proposed to be inserted in Preliminary Draft New Recommendation ITU-R F.[9B/BWA], "Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz" (Annex 6 to ITU-R Document 9B/83):
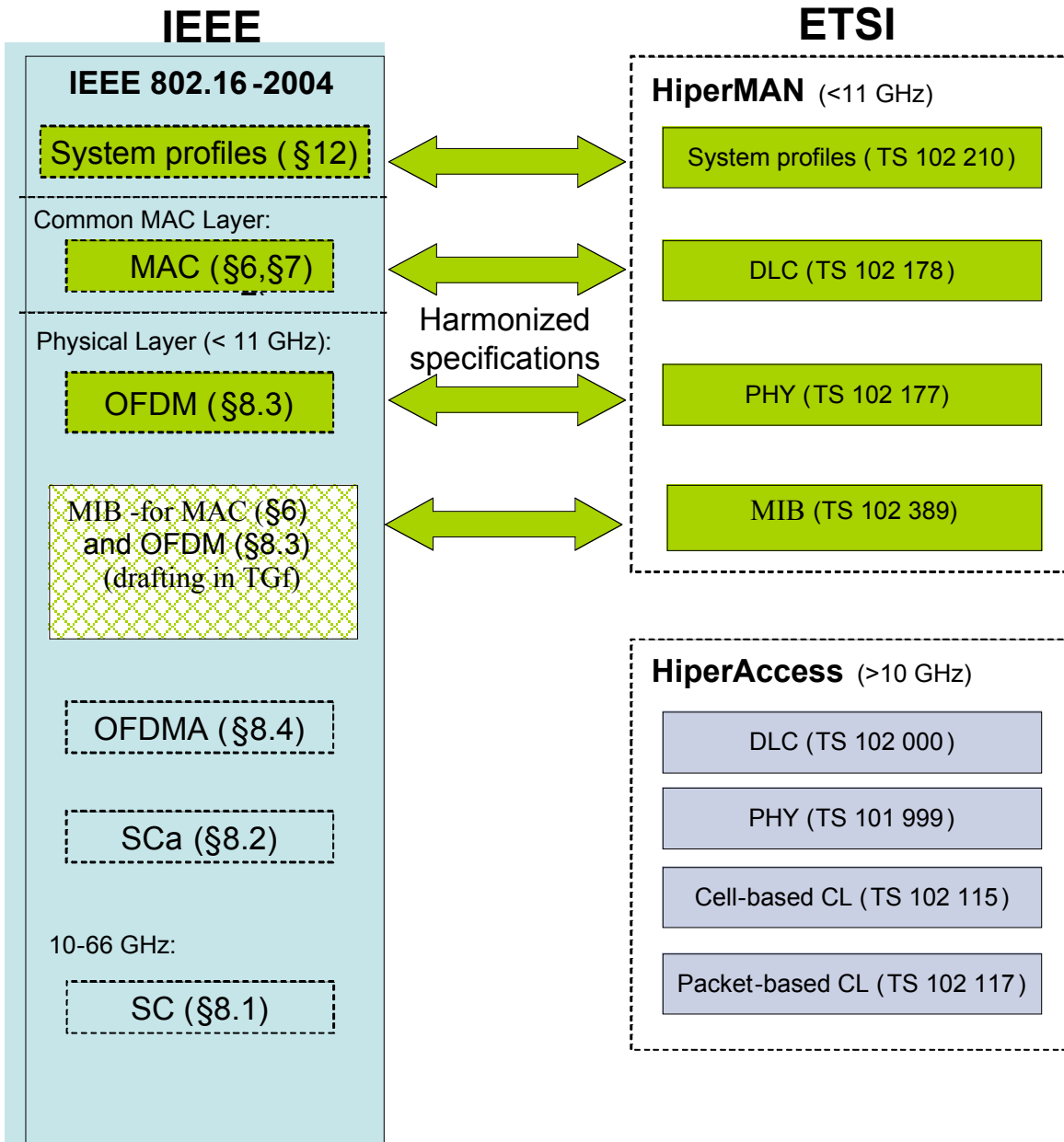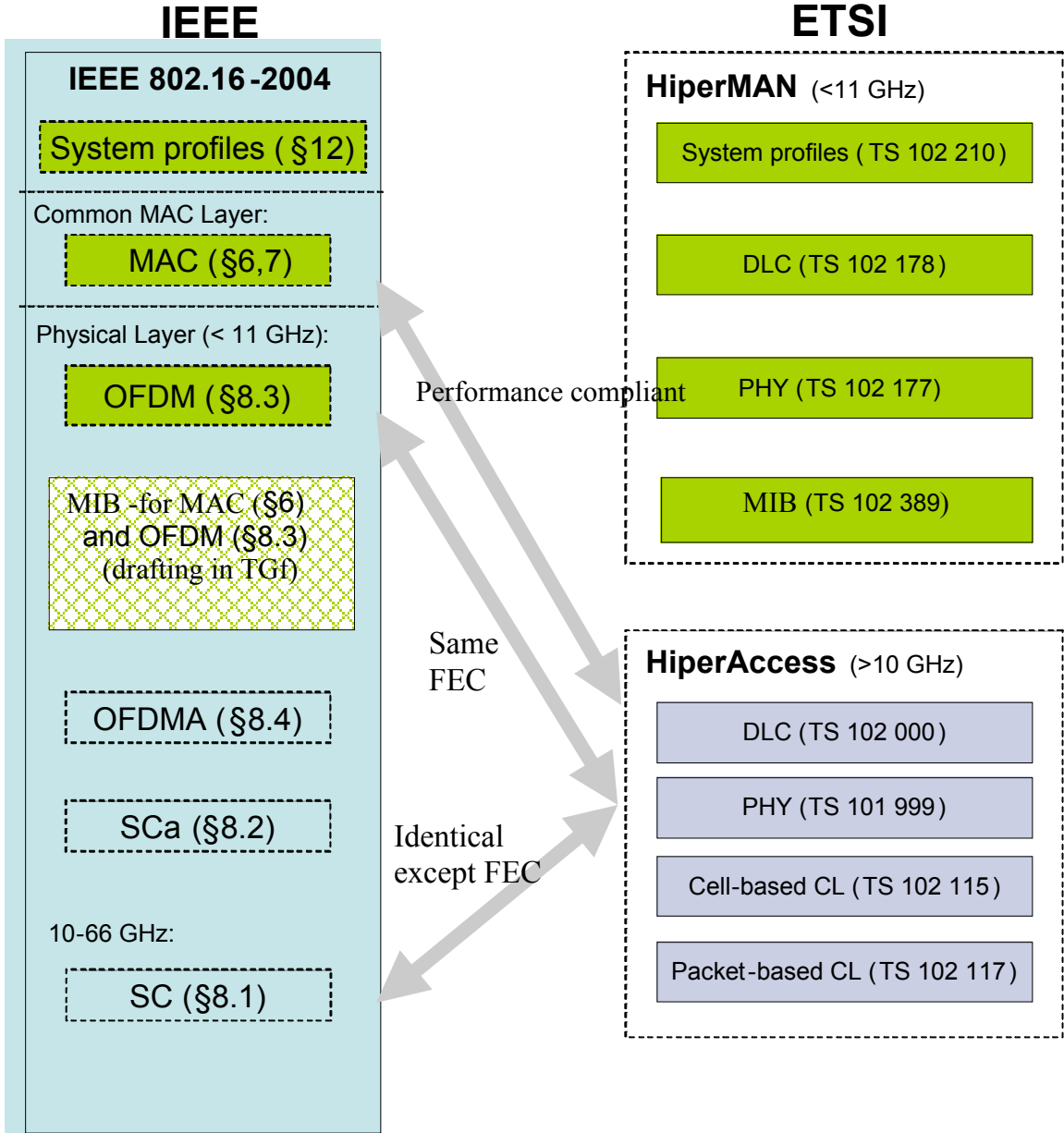
FIGURE 1

BWA Standards Harmonized for Interoperability

Figure 1 shows the equivalency of the IEEE 802.16-2004 and ETSI HiperMAN and HiperAccess standards. Since the standards contain options to fulfill the needs in multiple environments, the first step towards interoperability is the definition of system profiles. An exception is HiperAccess where profiles are not needed since the Base Station has full control about the use of optional features on a per terminal basis.

FIGURE 2

BWA Standards common elements – frequencies above 11 GHz

IEEE   ETSI

IEEE 802.16 -2004

System profiles (§12)

Common MAC Layer:

MAC (§6,7)

Physical Layer (< 11 GHz):

OFDM (§8.3)

MIB -for MAC (§6)
and OFDM (§8.3)
(drafting in TGf)

OFDMA (§8.4)

SCa (§8.2)

10-66 GHz:

SC (§8.1)

HiperMAN (<11 GHz)

System profiles (TS 102 210)

DLC (TS 102 178)

PHY (TS 102 177)

MIB (TS 102 389)

HiperAccess (>10 GHz)

DLC (TS 102 000)

PHY (TS 101 999)

Cell-based CL (TS 102 115)

Packet -based CL (TS 102 117)

Performance compliant

Same FEC

Identical except FEC

System profiles are sets of features to be used in typical implementation cases. Each profile is assigned an identifier for use in such documents as PICS proforma statements. Features specified in the standard as optional may be listed in a profile as "required" or "conditionally required". Profiles do not change "mandatory" status if specified in the standard itself. Any feature that is specified in the standard as optional and does not appear in certain profile is optional for the profile, thus absence of this feature in specific implementation does not affect conformance to the profile. Optional features shall be implemented as specified in the standard.
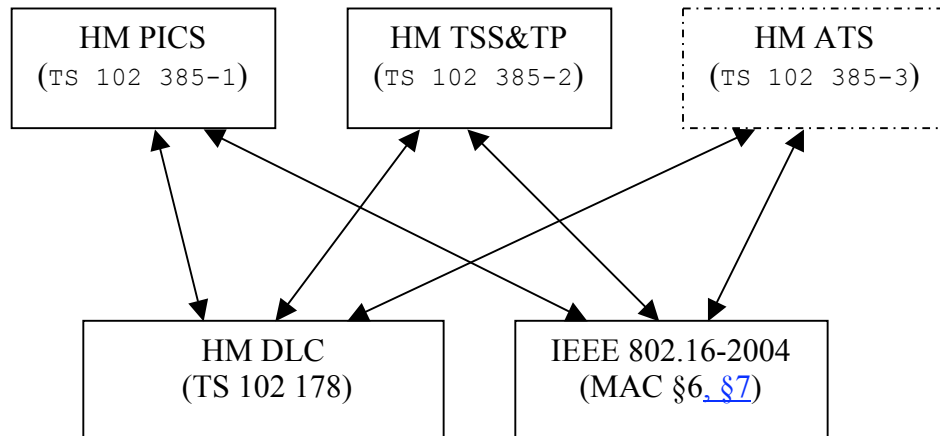
The next steps towards ensuring interoperability are conformance testing and interoperability testing.

- Conformance testing is the act of determining to what extent a single implementation conforms to the individual requirements of its base standard.

- Interoperability testing is the act of determining if end-to-end functionality between (at least) two communicating systems is as required by those base systems' standards.

The next figures shows the relation between base and test specifications for HiperMAN and HiperAccess.
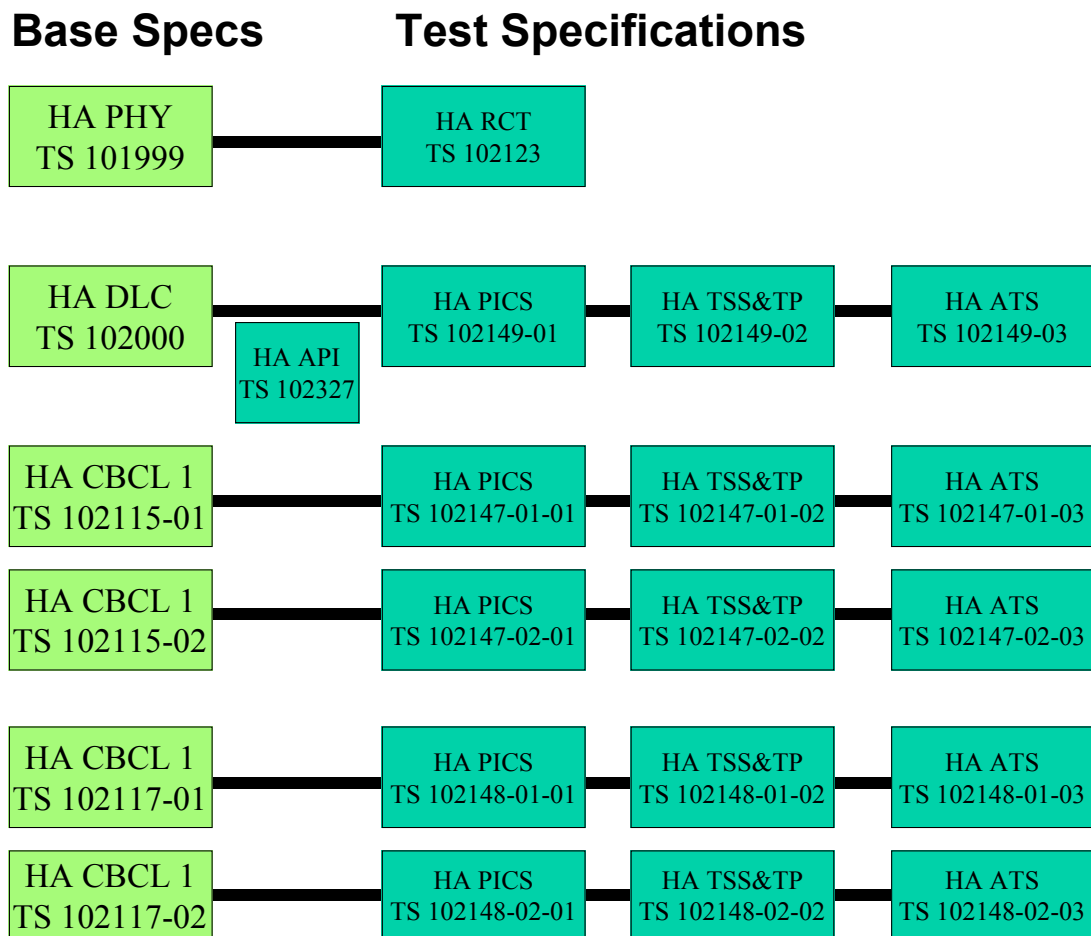
FIGURE 2

Harmonization of IEEE 802.16/ETSI HiperMAN Standards and Test Specifications

The HiperMAN test specifications refer to both HiperMAN DLC and 802.16 MAC documents.

FIGURE 3

BRAN HiperAccess Standards and Test Specifications

Base Specs

Test Specifications

Base Specs			
HA PHY TS 101999	HA RCT TS 102123		
HA DLC TS 102000	HA PICS TS 102149-01	HA TSS&TP TS 102149-02	HA ATS TS 102149-03
HA API TS 102327			
HA CBCL 1 TS 102115-01	HA PICS TS 102147-01-01	HA TSS&TP TS 102147-01-02	HA ATS TS 102147-01-03
HA CBCL 1 TS 102115-02	HA PICS TS 102147-02-01	HA TSS&TP TS 102147-02-02	HA ATS TS 102147-02-03
HA CBCL 1 TS 102117-01	HA PICS TS 102148-01-01	HA TSS&TP TS 102148-01-02	HA ATS TS 102148-01-03
HA CBCL 1 TS 102117-02	HA PICS TS 102148-02-01	HA TSS&TP TS 102148-02-02	HA ATS TS 102148-02-03

References:

http://www.wimaxforum.org/tech

http://portal.etsi.org/mbs/Testing/testing.asp
htttp://portal.etsi.org/bran