Feedback from JasPar to the IEEE 802.3bp Task Force regarding Draft 2.0

Japan Automotive Software Platform and Architecture

IEEE 802.3bp Interim Meeting
September 2015

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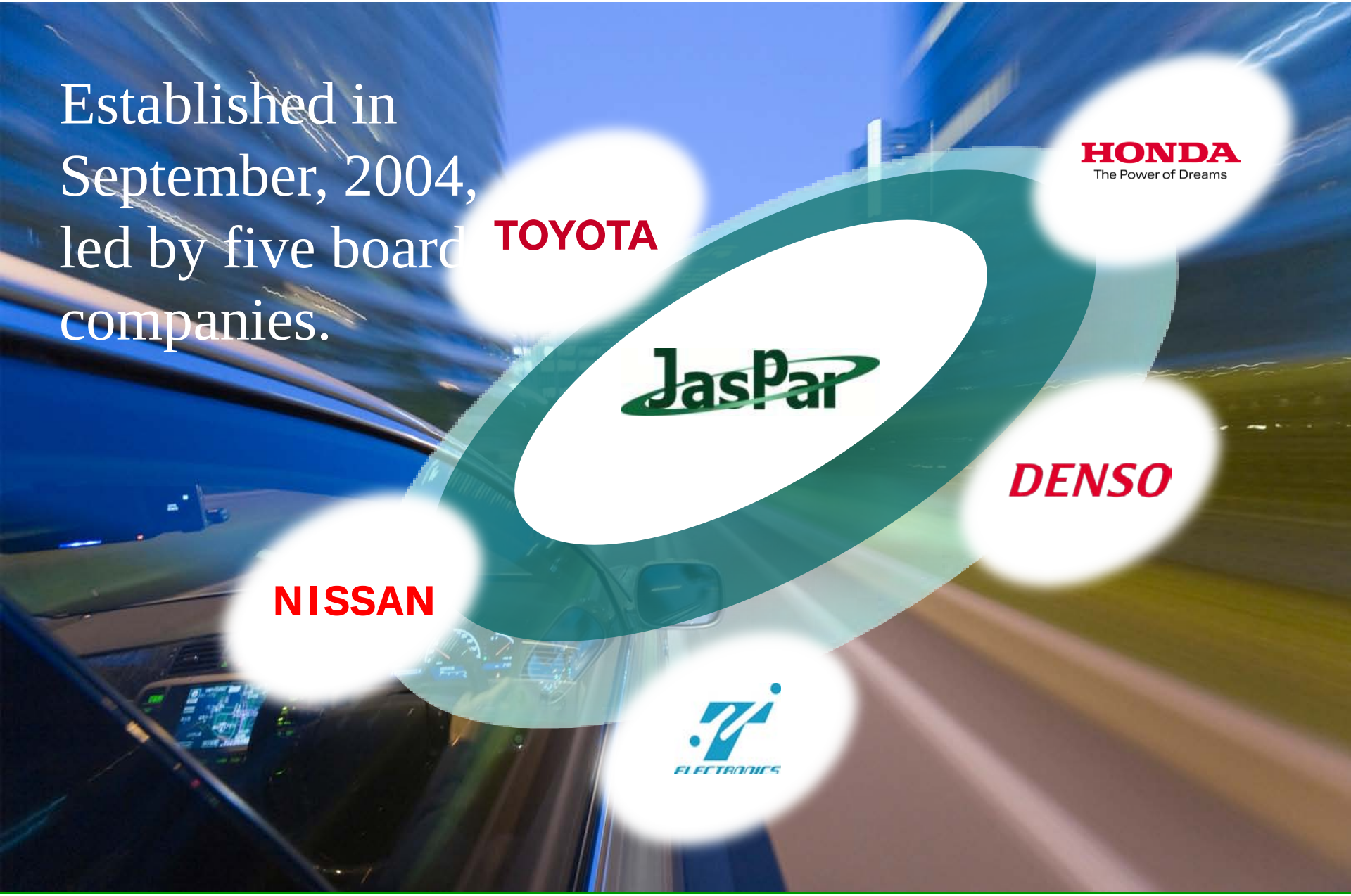
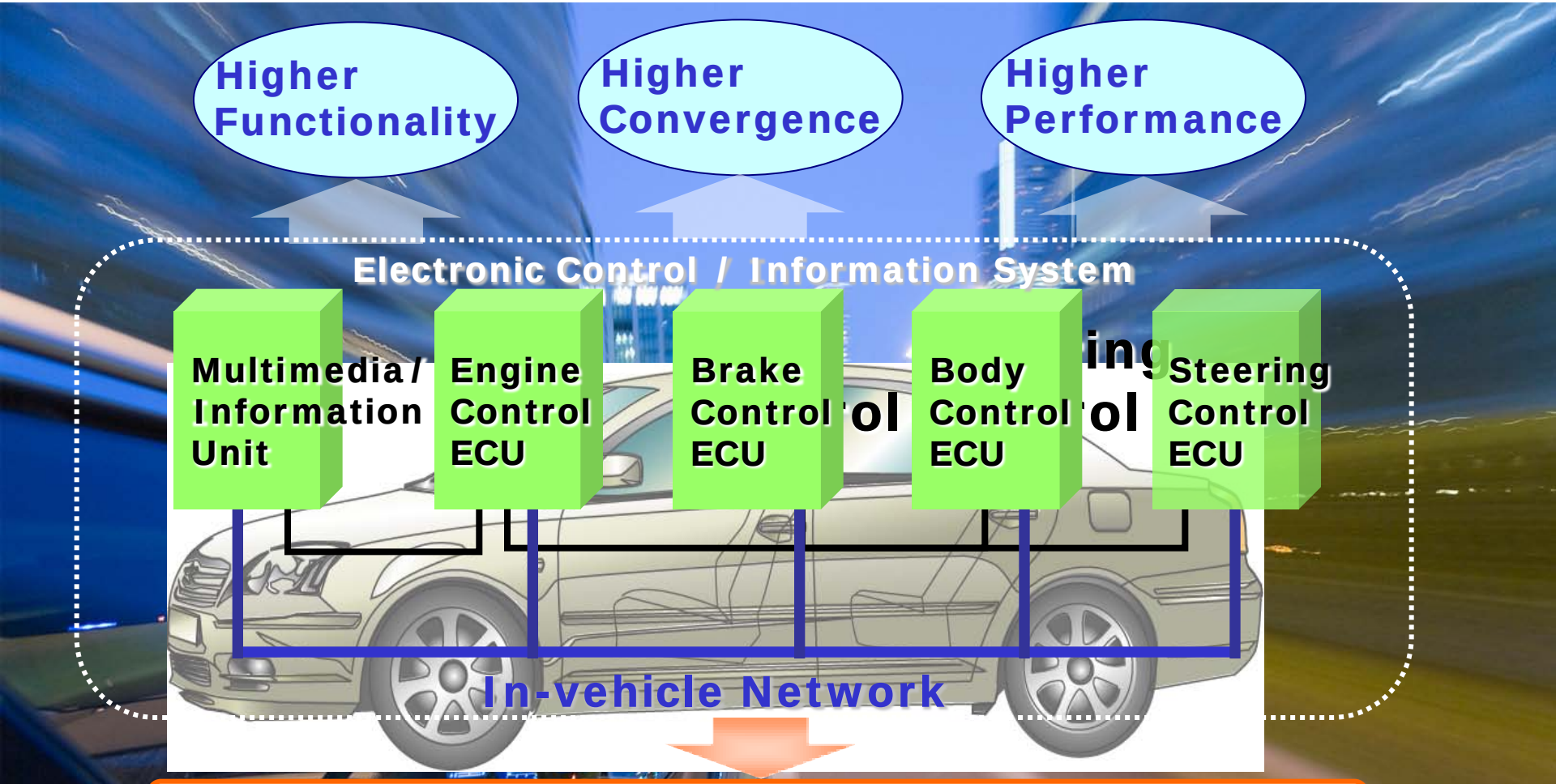
Background and Introduction to JasPar

Japan
Automotive
Software
Platform
and
Architecture

What is JasPar ?



Why JasPar was established ?



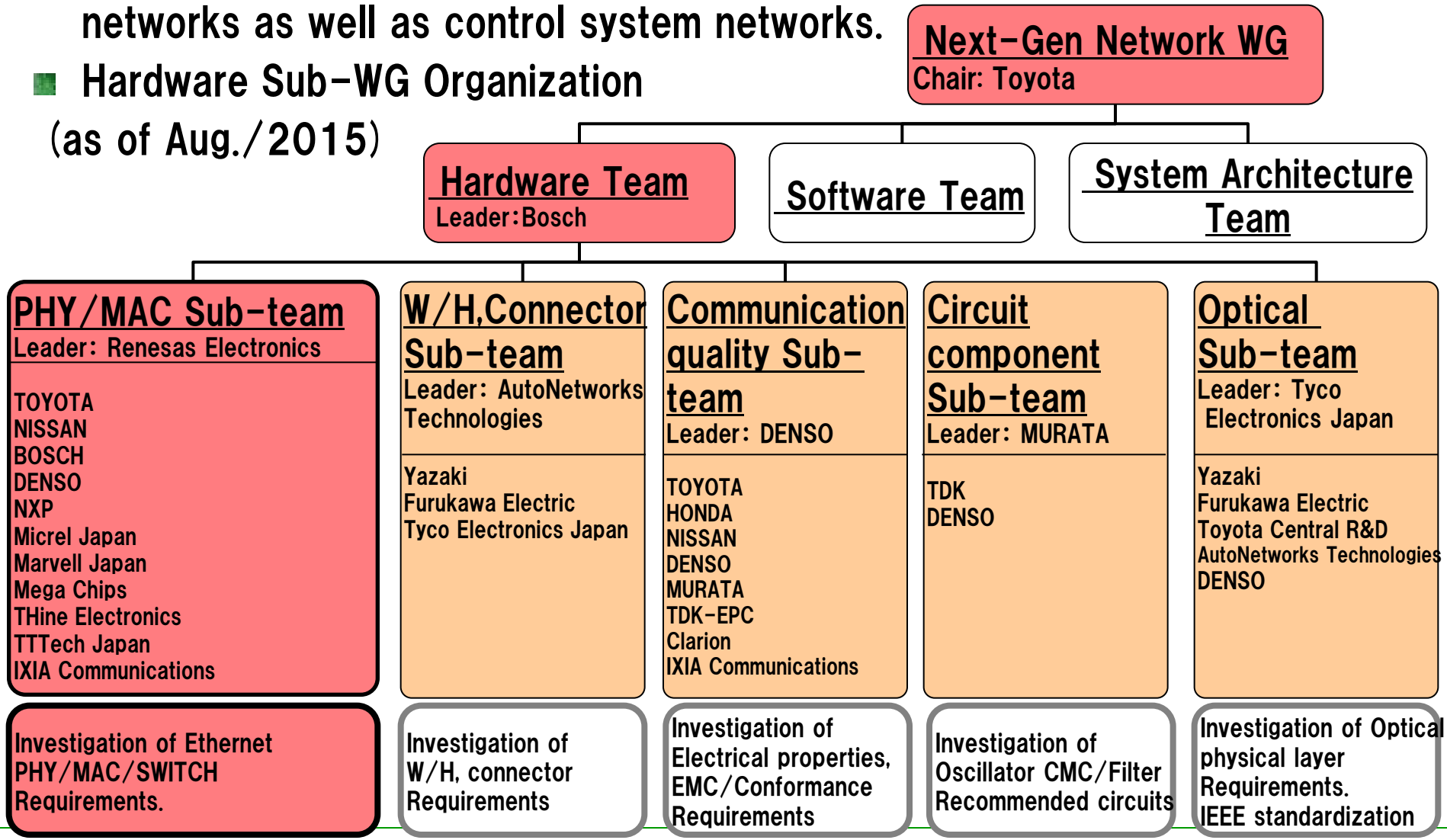
Increasing Complexity for Automotive electronics control systems

- To pursue increasing development efficiency and ensuring reliability by standardization and common use of electronic control systems in advanced and complex vehicle networks.

JasPar Next-Gen High-Speed In-Vehicle Network WG

- Purpose: This WG puts together requirements for next-generation high-speed networks in the vehicle, for both information system networks as well as control system networks.
- Hardware Sub-WG Organization

(as of Aug./2015)



Feedback Items from JasPar to IEEE
Questions of Clarification

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JasPar Feedback

- JasPar Ethernet WG (PHY/MAC Team) spent the last 3 months studying 802.3bp D2.0 document.
  - Many thanks to Steve for providing JasPar with the 2.0 Draft document.
- Since it is late in the standardization phase for 802.3bp, we do not have any required changes to this draft.
- We have some questions of clarification relating to things like test, crosstalk and impedance on the following pages.

Item 1: Section 97.5.5.1.3 (p. 115, line 38-)

Differential characteristic impedance

- D2.0 says that reference impedance is 100Ω for all frequencies. (both type A and type B)
- By comparison, 802.3bw (100BASE-T1) and OPEN Alliance specification states 100Ω+/-10%.
- They also specify a rise time of 700ps.

- Question: Will 802.3bp specify a tolerance of the differential characteristic impedance value?

- Question: Will 802.3bp specify a rise time for measuring the impedance (e.g. 700ps)?

Item 2: Annex 97A.2 (p. 191-192)

Differential characteristic impedance

- D2.0 says that common mode conversion loss should be tested by both 4-port and 3-port measurements.
- We don't understand the reasoning behind testing with 3 ports (Figure 97A-2).

- Question: Please help us to understand the reasons to test with 3 ports.

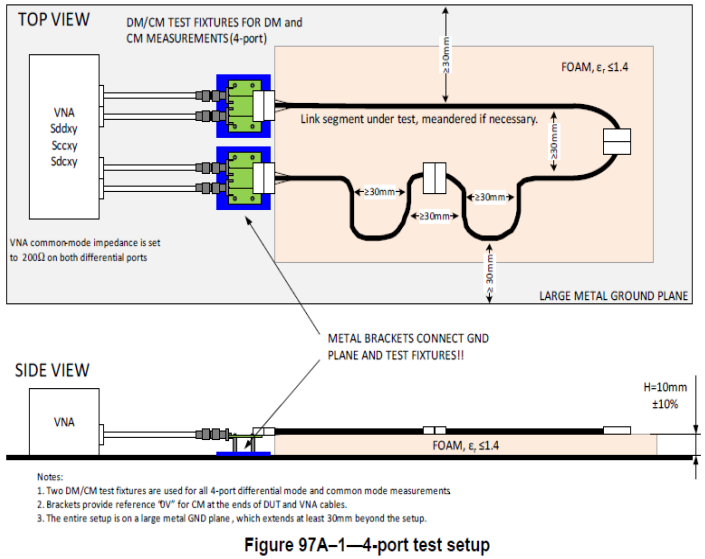

Figure 97A–1—4-port test setup

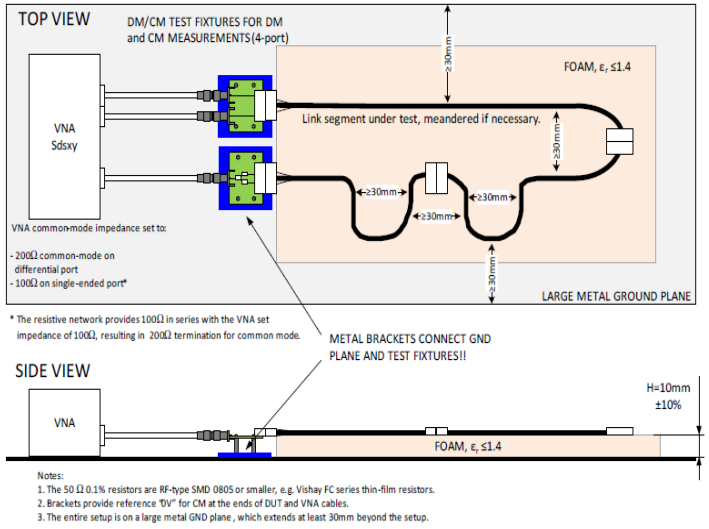

Figure 97A–2—3-port common mode conversion loss measurement

Item 3: Clause 97.5.5.3.2 (p. 120-121)

Multiple disturber power sum alien near-end crosstalk (PSANEXT) loss

- Equation 97-19 describes the PSANEXTlossN(f). If 100MHz is inserted for f into this equation, PSANEXTloss comes to 54dB.
- In Figure 97-34, at 100MHz PSANEXTloss shows about 60dB.

- Question: Are we reading this equation/graph wrong? Which of these is meant to show the correct PSANEXTloss?

Item 4: Annex 97B (p. 195)

Alien Crosstalk Test Procedure

- This Annex specifies details for testing Alien Crosstalk.

- Question: When testing using Figure 97B-2, what is the arrangement of cables when testing with 3 cables? Is it equivalent to cables #1,2,4 in Figure 97B-4? Or to cables #1,2,3?

- Question: Are there any non-IEEE Test Standards referenced for this testing?

Conclusion

- We would like any feedback IEEE has regarding the questions in this presentation.
- We realize that it is late in the standardization phase, and that there is not so much we can input to IEEE at this stage.
- In the future, if IEEE initiates any Task Force related to automotive ethernet specifications, please do inform JasPar about any possibility to cooperate more closely.