**Template for comments and secretariat observations**

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| MB/NC[1] | Line number (e.g. 17) | Clause Subclause (e.g. 3.1) | Paragraph/ Figure/Table (e.g. Table 1) | Type of comment[2] | Comments | Proposed change | Observations of the Secretariat |
|---|---|---|---|---|---|---|---|
| JP1 | | Whole | | ed | The all parameter symbols are not italic letter. | The all parameter symbols shall be change italic letter. | Accepted if in line with ISO directives |
| US 1 | | | | ge | Based on the studies performed by the US automobile manufacturers, it was concluded that the high voltage transients (inside the shielded high voltage supply system) were not conducted or coupled to the power supply lines, modules and components that were outside the shielded high voltage system. Since these high voltage transients were not present outside the shielded high voltage system, the testing of modules/components outside the shielded high voltage system is neither necessary nor applicable.<br><br>There has been a lack of providing technical data and evidence that such transients exist or that a document to address them is needed. The US Delegation for the past 4-5 years has been asking for such data of which little to none has been provided. | Need to conduct technical studies to demonstrate that the high voltage transients are present in the power supply lines outside the shielded high voltage system for EV manufactured by various member countries represented in the working group<br>US requested additional vehicle data to support the necessity of this test method.<br>US does not support the continuation of the development of this method until justification can be established based on vehicle data | Noted<br>To be discussed in Austin |
| Fr1 | | | | ge | French national committee casts a negative vote due to :<br>- technical comments (see Fr 2 to Fr 6)<br>- consideration that the test proposed in ISO/CD 7637-4 are out of the WG3 scope (should preferably be considered by SC32/WG2). | | Noted |
| JP2 | | 4.2 | | ed | The voltage supply system range specified from 60V to 1500 $V_{DC}$, however lower than 1000 $V_{DC}$ is described in clause 1 scope. | Unify the voltage range to up to 1000 $V_{DC}$. | Accepted with a value of 1500 $V_{DC}$ |

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| Fr 2 | | 4.3 | | te | The proposed measurement of voltage transient emission is not technically robust :<br>- not representative of vehicle conditions for HV systems (location of HV battery load),<br>- not technically possible (differential HV probe connected on shielded probe),<br>- does not consider current measurements,<br>- does not consider common mode voltage measurements. | No new proposal (due to French negative vote) | German experts will provide an updated Figure 1 for "differential HV probe connected on shielded probe" and a new Figure 1 to consider "common mode voltage measurements." |
| JP3 | | 4.3 | Figure 1 | ed | The note of cable length under title is for figure 1.<br>The note symbol “*)” of key 8 is not subscript. | The note should be described above of the figure 1 title.<br>The note symbol “*)” change to subscript. | Accepted |
| JP4 | | 4.3 | Figure 1 | ed | The key 10 described “Oscilloscope or equivalent”, and same meaning are described as follow.<br>- “oscilloscope or waveform acquisition equipment” in above figure 1.<br>- “measurement instrumentation” in next page. | Unify the all of word “oscilloscope or waveform acquisition equipment”. | Accepted with modification done also in 5.3 |
| JP5 | | 4.3 | Figure 1 | ed | The HV-switch of key 2 has no explanation. | An explanation of HV-switch should be needed. | Decision is to suppress the HV Switch (Key 2). German experts will provided an updated figure 1. |
| JP6 | | 4.3 | Last paragraph | ed | The measurement transient evaluation described in annex B. | Change annex C to annex B. | Accepted |

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| JP7 | | 4.3 | | te | A test procedure is not described in this clause, therefore the user of this standard may be confused about condition setup of DUT. | The test procedure shall be described in this clause. e.g. The DUT shall be actuate in all of its function, and record the maximum amplitude of waveform. | Accepted with some editorial changes including a sentence concerning DUT operating conditions |
| JP8 | | 4.4 | Whole | ed | The pulse A, pulse B and pulse C are defined in clause 5. However it is not refer to those pulses in this cause. | The pulse A, pulse B and Pulse C should be described in each part of titles, sentences and figures as following.<br>- square wave generator -> pulse A generator.<br>- sine wave generator -> pulse B generator.<br>- LF generator -> pulse C generator. | Accepted |
| Fr 3 | | 4.4.1 | | te | The proposed measurement for transient immunity test (voltage ripples) is not technically robust :<br>- not representative of vehicle conditions for HV systems (location of HV battery load),<br>- not technically possible (differential HV probe connected on shielded probe),<br>- used of a capacitor is not adequate due to the huge needed current level. | No new proposal (due to French negative vote) | The German experts will update the figure 2.a and 2.b. |
| JP9 | | 4.4.1 | | ed | This sub-clause draw figure directly below the title. | Put some explanation sentence under the title. | Secretary proposal to move the wording before the Figures (With addition of reference to Figure 2b) accepted in Austin |

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|---|---|---|---|---|---|---|---|
| JP10 | | 4.4.1 | Figure 2a<br>Figure 2b | ed | The note of cable length under the title is for figure 2a and 2b.<br>The note symbol "*)" of key 8 is not subscript.<br>The figure 2b has no note description. | The note should be described above of the Figure 2 title.<br>The note symbol "*)" change to subscript.<br>The note shall be described in figure 2b. | Accepted with supplementary secretary proposal for Figure 2b |
| JP11 | | 4.4.1 | Figure 2b | ed | The key 13 has no ground connection. | Connect the key 13 to ground symbol. | Accepted |
| JP12 | | 4.4.1 | | ed | The word bottom terminal and top terminal are used. It cause miss understand. | Change top and bottom terminal to upper or lower terminal of sine wave generator in figure 2a/2b. | To be discussed in Austin |
| JP13 | | 4.4.1 | | ed | The figure 2b is not referred in any descriptions. | Add explanation about figure 2b to second sentence. | Secretary proposal to move the wording before the Figures (With addition of reference to Figure 2b) : accepted with some rewording for clarification (test should be performed on HV+ and HV-). |
| JP14 | | 4.4.1 | 2nd paragraph | ed | The initial letter of "Ground plane" is capital. | Change "Ground" to "ground" | Accepted (see secretary proposal) |

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| Fr 4 | | 4.4.2 | | te | The proposed measurement for transient immunity test (pulsed sinusoidal) is not technically robust :<br>- not representative of vehicle conditions for HV systems (location of HV battery load),<br>- not technically possible (differential HV probe connected on shielded probe),<br>- used of a HV-AN is not convenient to ensure a good decoupling factor in regard to the low impedance of the HV battery. | No new proposal (due to French negative vote) | The German experts will update the figure 3.a and 3.b. |
| JP15 | | 4.4.2 | | ed | The word bottom terminal and top terminal are used. It cause miss understand. | Change top and bottom terminal to upper or lower terminal of square wave generator in figure 3a/3b. | accepted |
| JP16 | | 4.4.2 | Figure 3a<br>Figure 3b | ed | The note of cable length under title is for figure 3a and 3b.<br>The note symbol “*)” of key 8 is not subscript.<br>The figure 3b has no note description. | The note should be described above of the figure 3 title.<br>The note symbol “*)” change to subscript.<br>The note shall be described in figure 3b. | Accepted<br>with supplementary secretary proposal for Figure 3b : accepted with some rewording for clarification (test should be performed on HV+ and HV-). |
| JP17 | | 4.4.2 | Figure 3b | ed | The key 12 has no ground connection. | Connect the key 12 to ground symbol. | Accepted |

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|---|---|---|---|---|---|---|---|
| JP18 | | 4.4.2 | | | The figure 3b is not referred in any descriptions. | Add explanation about figure 3b to second sentence. | Secretary proposal to move the wording before the Figures (With addition of reference to Figure 3b)<br>Accepted : See JP 16 |
| JP19 | | 4.4.2 | 2nd paragraph | ed | The initial letter of “Ground plane” is capital. | Change “Ground” to “ground” | Accepted |
| JP20 | | 4.4.2.1<br>4.4.2.2 | | te | No output load condition of test generator is described.<br>The output level unit is volt in annex A, however power measurement instrument indicate in watt. So, it needs conversion of unit.<br>The output level can be measured by oscilloscope in key 11 of figure 3a/3b.<br>Therefore monitoring of output power is unneeded. | Delete all of 4.4.2.1 and 4.2.2. | Accepted with updated proposal from German experts including updated figure 3.c and new figure 3.d, additional wording for the balun and suppression of clause C.3 |
| JP21 | | 4.4.2.2 | Figure 3a | ed | The balun transformer connection need more detail. | The signal name should be described on each terminal of balun transformer. | Accepted with additional wording: "(see figure 12)" in Key 10. |
| Fr 5 | | 4.4.3 | | te | The proposed measurement for transient immunity test (low frequency sinusoidal) is not technically robust :<br>- not representative of vehicle conditions for HV systems (location of HV battery load),<br>- not technically possible (differential HV probe connected on shielded probe). | No new proposal (due to French negative vote) | The German experts will update the figure 4.a and 4.b. |

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| JP22 | | 4.4.3 | | te | The shielded high voltage artificial network (AN) shown in 5.1, however this AN for high frequency use. The decoupling function of this AN could not adapt for pulse C. | A new low frequency AN should be considered. | Not accepted |
| JP23 | | 4.4.3 | Figure 4a<br>Figure 4b | ed | The note of cable length under title is for figure 4a and 4b.<br>The note symbol “*)” of key 8 is not subscript.<br>The figure 4b has no note description. | The note should be described above of the figure 4 title.<br>The note symbol “*)” change to subscript.<br>The note shall be described in figure 4b. | Accepted with supplementary secretary proposal for Figure 4b |
| JP24 | | 4.4.3 | Figure 4b | ed | The two key 14 capacitor are described.<br>If the capacitance is same, a functional purpose is different. | The capacitor with transformer should be provided new key number. | Accepted with new key 15 |
| JP25 | | 4.4.3 | | ed | The figure 4b is not referred in any descriptions. | Add explanation about figure 4b to third sentence. | Secretary proposal to move the wording before the Figures (With addition of reference to Figure 4b) accepted in Austin |
| JP26 | | 4.4.3 | Figure 4b | ed | The key 13 has no ground connection. | Connect the key 13 to ground symbol. | Accepted |
| Fr 6 | | 5 | | te | Some of the defined characteristics of the test instruments are not sufficiently justified:<br>- HV load (resistance and capacitor values),<br>- commercial availability of test generators. | No new proposal (due to French negative vote) | Noted |
| JP27 | | 5.1 | Figure 5 | ed | The coil L1 symbol is not IEC rule. | Redraw the L1 with four half circle. | Secretary proposal based on ISO 11452-1, Annex B : Accepted |
| JP28 | | 5.1 | Figure 5 | ed | The description of ”protected against direct contact “b”” in Key C1,C2 are no sense. | Delete it. | Secretary proposal based on ISO 11452-1, |

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| | | | | | | | Annex B : Accepted |
| JP29 | | 5.1 | 2nd paragraph | ed | This AN come from CISPR 25 Ed4.0 draft. | Align the draft of CISPR 25 Ed.4.0. | Secretary proposal based on ISO 11452-1, Annex B : Accepted |
| JP30 | | 5.1 | Figure 6 | ed | The X and Y axis titles are German language. | Change Garman title to “Frequency” and “Impedance”. | Secretary proposal based on ISO 11452-1, Annex B : Accepted |
| JP31 | | 5.1 | Figure 7 | ed | The note of cable length under title is for figure 7.<br>The note symbol “*)” is not subscript. | The note should be described above of the figure 7 title.<br>The note symbol “*)” change to subscript. | Secretary proposal based on ISO 11452-1, Annex B : Accepted |
| JP32 | | 5.4 | | ed | The resistor and capacitor has no rating characteristic. | At least power rating and voltage rating should be described. | Noted but no proposal |
| JP33 | | 5.5.1 | Figure 8 | ed | The $Z_i \leq 0,8$ ohm in last bullet of 5.5.1 is different from 0,5 ohm in figure 8.<br>The $Z_i$ is induced miss understand of input impedance. | Change 0,8 ohms to 0,5 ohms.<br>Add arrow symbol in figure 8.<br>e.g. <- $Z_i$ = 0,5 ohms<br>Change “ohms” to “Ω”. | Agreed<br>Accepted<br>Accepted<br>German experts will provide a new Figure 9. |
| JP34 | | 5.5.1.1 | 2nd paragraph | ed | The description “HV±” is hardly understood. | Change “HV±” to “HV+ or HV-“. | Accepted |
| JP35 | | 5.5.1.1 | 3rd paragraph | ed | The description of “in Line-to-line- and in line-to-ground-mode” are odd description. | Change as following;<br>“in Line-to-line and in line-to-ground mode” | Accepted |
| JP36 | | 5.5.1.1 | Figure 9 | ed | The key “1 1” and “2 2” are incorrect. | Delete each one numeric. | Accepted |

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| JP37 | | 5.5.1.1 | | ed | This coupling network is not referred.in any descriptions. | The coupling network should be described in figure 2a | Accepted with a new German proposal with suppression of independent line to ground coupling and addition of simultaneous line to ground coupling (HV+ to ground and HV- to ground). New Figure 2.b and wording to introduce this new Figure 2.b with reference to coupling network define in 5.5.1.1. |
| JP38 | | 5.5.2 | Figure 10 | ed | The key is described under figure title. | The key should be described above figure 10 title. | Accepted |
| JP39 | | 5.5.3.1 | First paragraph | ed | The different fonts are used. | Unify the font. | Accepted |
| JP40 | | 5.5.3.2 | Figure 11 | ed | The coaxial cable must be winds 16 turns, however the figure 11 shows only 2 turn. The “solid dielectric wound “ could not understand | Redraw the figure 11. | Not accepted for the Figure modification German experts will check for an alternative proposal for solid dielectric wound and or coaxial cable description. |

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| JP41 | | A.2.1<br>A.2.2<br>A.2.3 | Table A.2.1<br>Table A.2.2<br>Table.A.2.3 | ed | The note"*)", "**)" and "***)" had better to move to foot note of under the table. | Extend the table flame for foot note, and those note move to it.<br>Change note symbol to subscript. | Accepted |
| JP42 | | Annex B | | | There is no limitation table of transient emission.<br>ISO 7637-2 has the limitation table. | The emission limitation shall be smaller than immunity level.<br>If he limitation value could not defined, some explanations are needed. | Accepted with additional sentence in clause B.2.<br>German experts should provide additional wording and/or Table to consider margin. |
| JP43 | | B.1 | 1st paragraph | | The description "specified in 3" could not understand. | Rewrite the sentence. | Accepted with clause 4.3 instead of 3. |
| JP44 | | B.2 | Table B.2.1 | ed | The table number is incorrect. | Change table number B.2.1 to B.1. | Accepted |
| JP45 | | B.3 | Title | ed | Title of B.3 is missing. | Change title B to B.3. | Accepted |

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| JP46 | | C.2 | | ed | The C.2 is described about pulse A, however there is no description of pulse A. | Add pulse A on main text and figure C.1 | Accepted with additional modification to used $Z_{out}$ instead of ZI for generator output impedance |
| JP47 | | C.2 | Above the Figure C.1 Figure C.3 | | The word “transducer” is unclear. | Add explanation in detail. | Accepted<br>Whole sentence deleted |
| JP48 | | C.2 | Figure C.1 Figure C.3 | ed | The $Z_i$ is induced miss understand to input impedance. | Add arrow symbol in figure C.1 and C.3.<br>e.g. <- $Z_i$ = 0,5 ohms<br>Change “ohms” to “Ω”. | Already accepted |
| JP49 | | C.2 | Figure C.2 Figure C.4 Figure C.6 Figure C.7 | ed | The figures of waveform are not key. | Each key description described under the waveform figure. | Accepted<br>German experts should provide updated Figures |
| JP50 | | C.2 | Figure C.2 | ed | The “$V_{in}$=15$V_{pp}$” described in key 2 is unclear. | Add explanation in detail. | Accepted with clarification concerning $V_{in}$ values. |
| JP51 | | C.2 | Figure C.1 Figure C.3 | ed | The key description is not for key. | Delete the key description. | Accepted<br>German experts should provide updated Figures |
| JP52 | | C.3 | | | This configuration is general setup of verification. | Delete the all of clause C.3 | Accepted |

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