



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 24338.4-2018

**Railway applications -- Electromagnetic compatibility -- Part
3-2: Rolling stock -- Apparatus**

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Foreword

GB/T 24338 "Railway applications - Electromagnetic compatibility" consists of the following parts.

- Part 1.General;
- Part 2.Emission of the whole railway system to the outside world;
- Part 3-1.Rolling stock - Train and complete vehicle;
- Part 3-2.Rolling stock - Apparatus;
- Part 4.Emission and immunity of the signaling and telecommunications apparatus;
- Part 5.Emission and immunity of fixed power supply installations and apparatus.

This part is part 3-2 of GB/T 24338.

This part was drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 24338.4-2009 "Railway applications - Electromagnetic compatibility - Part 3-2.Rolling stock - Apparatus". As compared with GB/T 24338.4-2009, the main technical changes are as follows.

- ADD the requirements of the test report (see clause 5);

- ADD the measurement requirements, CLARIFY that frequencies that are not required are not tested (see clause 1);
- ADD the general EMC requirements (see clause 6);
- DELETE the measurement requirements for the emission of 9 kHz ~ 0.15 MHz from the Table (see clause 7 of the 2009 version);
- DELETE the Tables 1 and 2 (see clause 7 of the 2009 version);
- MODIFY the Table 3, CHANGE the public AC power supply requirements from the note of the Table to the Table entry requirements (see Table 1; Table 3 of the 2009 version);
- DELETE the Table 5 (see clause 7 of the 2009 version);
- MODIFY the surge test requirements of Table 7 (see Table 4; Table 7 of the

2009 version);

- MODIFY the test level of Table 9 (see Table 6; Table 9 of the 2009 version);
- ADD the footnote a that for the apparatus at specific location, it may reduce the severity requirements to 10 V/m (see Table 6).

This part uses the redrafting method to modify and use the IEC 62236-3-2.2008 "Railway applications - Electromagnetic compatibility - Part 3-2. Rolling stock - Apparatus".

There are technical differences between this part and IEC 62236-3-2.2008. The terms involved in these differences have been marked by the vertical single line (|) in the outer margin position. The specific technical differences and their causes are as follows.

- Regarding the normative references, this part has made adjustments with technical differences, to adapt to the technical conditions of China. The adjustments are concentrated in clause 2 "Normative references". The specific adjustments are as follows.
- Use the GB/T 6113.101, GB/T 6113.104, GB/T 6113.201, and GB/T

6113.203 which adopt the international standards to replace CISPR 16 (all parts);

- Use the GB/T 9254 which equivalently adopts the international standard to replace CISPR 22;
- Use the GB/T 17626.2 which equivalently adopts the international standard to replace IEC 61000-4-2;
- Use the GB/T 17626.3 which equivalently adopts the international standard to replace IEC 61000-4-3;
- Use the GB/T 17626.4 which equivalently adopts the international standard to replace IEC 61000-4-4;
- Use the GB/T 17626.5 which equivalently adopts the international standard to replace IEC 61000-4-5;
- Use the GB/T 17626.6 which equivalently adopts the international standard to replace IEC 61000-4-6;
- Use the GB/T 24338.1-2018 which modifies and adopts the international standard to replace IEC 62236-1:2008;
- Use the GB/T 24338.3 which modifies and adopts the international standard to replace IEC 62236-3-1;
- ADD the references to GB/T 4365, GB 17799.4-2012, GB/T 17626.30, and GB/T 25119.
- ADD the general requirements for electromagnetics, CLARIFY that the frequency that is not required is not tested. DELETE the impact test factors, the emission requirements and immunity requirements of rolling stock apparatus (see clause 1);
- DELETE the test content related to the emission-AC traction power port and the DC traction power port;
- DELETE the contents of 9 kHz ~ 0.15 MHz from Table 1, Table 2 and Table 3, because there is no specific limit requirement;

- ADD the measurement requirements for enclosure ports to transmit in the range of 1 GHz ~ 6 GHz, to adapt to the development of electronic devices (see clause 1);
- DELETE the Table 5, the required port of the Table is inside the control cabinet, its electromagnetic compatibility performance is guaranteed by the cabinet;
- MODIFY the surge test requirements, further DETAIL the test requirements, to adapt to the technological developments (see clause 7);
- ADD the test requirements for port cable length, IMPROVE the test method to improve the repeatability of the test (see clause 7);
- MODIFY the frequency division of the radio frequency electromagnetic field's radiation test of the digital communication device of the enclosure cabinet port, to adapt to the development of the test method (see clause 7);
- MODIFY the form of notes and the contents of notes in Tables 1 ~ 6, CHANGE the note to footnote and UPDATE the number in the order of reference, to meet the application needs of China's railway industry (see clauses 6, 7).

This part also made the following editorial changes.

- COMBINE the requirements of the test report into clause 5 of this standard;
- DELETE the Tables 1 and 2 from IEC 62236-3-2.2008, without specifying specific limit requirements;
- MODIFY the position of Table 5 of IEC 62236-3-2.2008, MERGE it with Table 2 of this part;
- DELETE the description of each Table on the research and technical development of the relationship between conduction and radiation emission;
- DELETE the note 3 in Table 9 and the Table 4 from IEC 62236-3-2.2008;
- ADD the reference document EN 50121-3-2.2015.

1 Scope