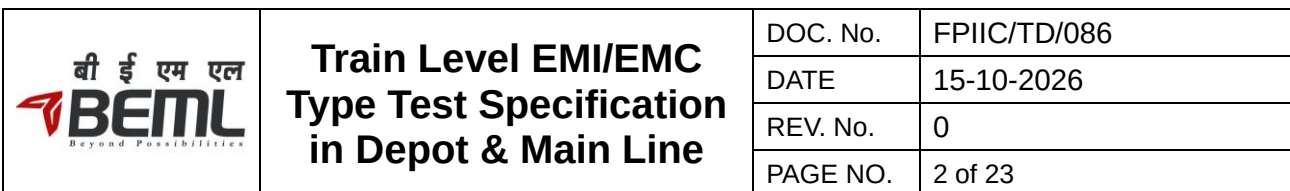


TRAIN B28

Train Level EMI/EMC Type Test Specification in Depot & Main Line

Approved	15-10-2026	Mahanthesh GM	
Reviewed	15-10-2026	Sushata Goswami/ Mudavath Sreenu	
Prepared	15-10-2026	Nagaram Prateek/ Mohd Sheik Shakil	
	Date	Name	Signature



Train Level EMI/EMC Type Test Specification in Depot & Main Line

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REVISION DETAILS

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1. Introduction

This document describes the Test specification of EMC/EMI for High-Speed Rail project with operating speed 249kmph and test speed 280kmph.

The purpose of the test is to verify the B28 train, satisfy the proven standards and the employers EMC/EMI requirements in the operating environment of MAHSR corridor. The document defines the EMC/EMI test to be performed, the test procedure acceptance criteria and the measuring instruments to be used. The tests are performed and the values recorded to verify if the values are within or without of the prescribed limit or criteria. The test will be performed in the main line of the MAHSR corridor, some tests could also be performed on the test track of the MAHSR depot provided the test conditions are met.

1.1. Consultancy

- BEML has appointed M/s. EC Engineering, Poland as Design Consultancy for Carbody, interiors and Bogie design.
- Further BEML appointed M/s. DB Engineering and Consulting GmbH as Design Verification Consultancy.
- All proposals, design documents will be shared with these agencies and nominated agency or any other appointed agencies in future.
- The Propulsion, Auxiliary Power supply, TCMS and Battery system are being sourced from M/s. Medha Servo Drive Pvt. Ltd., (MSDPL).
- The Testing Agency is also required to interact with the above-mentioned agencies during the progress of the project.

2. Definitions and Abbreviations

2.1. Definitions:

The following definitions and abbreviations are applicable to the Test Specifications (TS).

Table 1 Definitions

Sl. No.	Name	Definition
1	Employer	means ICF-Chennai, its legal successors and assignees
2	Nominated Agency/Purchaser	shall mean NHSRCL and its representatives including an ISA (if any) deployed by NHSRCL for the purpose of carrying out Design approvals, Tests, Trials etc.
3	BEML	means the contractor for Design, Development, Manufacture, Testing and Commissioning of Trainsets for the project.

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Sl. No.	Name	Definition
4	Design Validation/Testing Agency	means the design validation agency or testing agency who carry out the required by BEML for NHRCL/ICF High Speed Train project. Design validation agency or testing agency shall Carry out the works in accordance with this Test Specification (TS) with regards to design validation.
5	GTC	means "General Terms and Conditions for design validation for NHRCL/ICF High Speed Rail Project" issued by BEML.
6	TS	means BEML's Test Specification document
7	Contract	means the contract between Design Validation Agency and BEML in relation to the design validation for NHRCL/ICF High Speed Train Set.

2.2. Abbreviations:

Table 2 Abbreviations

A	Ampere
AC	Alternating Current
ATP	Automatic Train Protection
ATC	Automatic Train Control
ATO	Automatic Train Operation
C	Celsius
DC	Direct Current
EN	European Standard
E-field	Electric field
ETCS	European Train Control System
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
GoA	Grade of Automation
H	Hours
H-field	Magnetic field
HRC	Harmonic Return Current
HS	High Speed
ICNIRP	International Special Committee on Radio Interference
IEC	International Electro Technical Commission
Kg	Kilo Gram
KM	Kilo Meter
kph	Kilo Meter per Hour
kV	Kilo Volt
MM	Millimetre
ms	Millisecond

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MS	Medium Speed
N	Newton
N/A	Not Applicable
OHL	Over Head Line
PSO	Psophometric current
RFI	Radio Frequency Interference
RSS	Receiving Substation
Sec	Second
TOR	Top of Rail
SS	Slow Speed
ST	Stationary
S&T	Signalling & Telecom System
T	Tesla
TCC	Track Circuit Compatibility
TM	Traction Motor
μT	Micro Tesla
CB	Circuit Breaker
V	Volt
W	Watt
LTC	Line Traction Converter

3. Precedence of Documents

- In the event of any conflict between requirements of particular parts of this TS, the design validation agency shall seek clarification from BEML
- any term/clause/definition is unclear in this specification, design validation agency shall seek clarifications from design team in BEML, prior to signing contract, to confirm the same.
- After signing the contract, Testing/design validation agency shall follow the definition and opinion of design team in BEML.

Order of precedence	Document Title
1	GTC
2	TS

- The complete requirements are those found in the above documents. It shall be the design validation agency's responsibility to ensure that equipment, documentation, and services furnished against this TS are in full compliance with all the above documents.

4. Train configuration

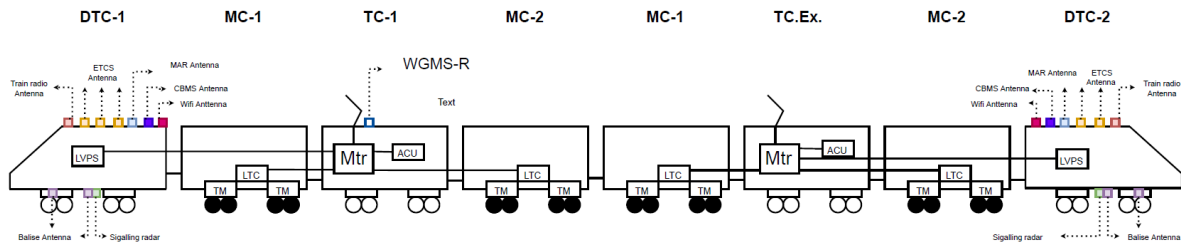
The scope is for 8-Chair car High Speed Trainset (also referred as a rake).

Car configuration: 8 Cars – 2 basic units, each unit consisting of 4 Cars

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The tentative configuration of train formation is as follows.

For 8 car formation –



* DTC1 + MC1 + TC-PRM + MC2 + MC1 + TC(EC)+ MC2 + DTC2 *

Where, DTC : Driving Trailer Car,

MC : Motor Car,

TC : Trailer Car,

TC(EC) : Trailer Car (Executive Car)

" * " : Automatic Coupler

" + " : Semi- permanent coupler

5. Reference Documents

Following are the applicable standards and documents for Test Specification of EMC & EMI:

Table 3 Reference Standards/Documents

Sl.No.	Standard/ Document	Name
1	IEC 61133	Electric traction; rolling stock; test methods for electric and thermal/electric rolling stock on completion of construction and before entry into service
2	EN 50121-3-1:2017/ IEC 62236-3-1	Railway applications – Electro-magnetic compatibility – Part 3-1: Rolling stock – Train and complete vehicle
3	EN 50121-2:2017/ IEC 62236-2	Railway applications: Electromagnetic compatibility Part 2, Emissions of the whole railway system to the outside world
4	EN 55011/ CISPR-1-1	Industrial, scientific and medical equipment- Radio frequency disturbance characteristic- Limits and method of measurements
5	EN 50592: 2016-10 [R01]	Railway applications - Testing of rolling stock for electromagnetic compatibility with axle counters
6	CLC/TS 50238-3: 2022- 01 [R02]	Railway applications – Compatibility between rolling stock and train detection systems: Compatibility with Axle Counters

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Sl.No.	Standard/ Document	Name
7	EN 50500:2008 +A1:2015	Measurement procedures of magnetic field levels generated by electronic and electrical apparatus in the railway environment with respect to human exposure
8	EN 45502-2-1	Active implantable medical devices - Part 2-1: Particular requirements for active implantable medical devices intended to treat bradyarrhythmia (cardiac pacemakers)
9	ICNIRP Guidelines 2010	For limiting exposure to time-varying Electric and magnetic fields (1 Hz – 100 kHz)
10	EN ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025)
11	IEEE 519_2022	IEEE Recommended Practice and Requirements for Harmonic Control in Electric Power Systems
12	IEC 61000-3-6	Harmonic Emission Limits for Customers Connected to MV, HV, and EHV
13	EN 50388-1:2022	Railway Applications - Fixed installations and rolling stock - Technical criteria for the coordination between electric traction power supply systems and rolling stock to achieve interoperability - Part 1: General
	Any other applicable EN/IEC standards in line with other high-speed trains	

6.

6. Climatic and Environmental Condition

The NHSRCL/ICF Car shall operate reliably and safely under Mumbai climatic and Environmental conditions as per as per Clause 3.6 shown in following Table. Accordingly, the design validation agency shall be carry-out the design validation process to operate the train with satisfactory performance under the following climatic and environmental conditions

Table 4 Climatic and Environmental Conditions

Description	Limiting Values
Atmospheric temperature [Note-1]	Minimum temperature: - 5°C Maximum temperature: 50°C Maximum touch temperature of metallic surface under the sunlight and shade shall be considered and calculated as per ASHRAE 2021.
Humidity	100% saturation during rainy season
Solar radiation	Value and calculation method shall be based on ASHRAE 2021.
Altitude	1000 meter above mean sea level
Rainfall	Very heavy and continuous rainfall in certain areas (heavy continuous rainfall up to 2500mm, rainy season is as long as 5 months in some stretches)

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Description	Limiting Values
Atmospheric conditions	Extremely dusty and desert terrain in certain areas. The dust concentration in air may reach a high value of 0.4 mg/m ³ .
Coastal area	Humid, salt laden and corrosive atmosphere as prevailing in coastal region.
Wind speed	High wind speed in certain areas, with wind pressure reaching 216 kg/m ² . [Note-2]
Flood level	The Train shall function in accordance with these Specifications and Standards in the event of flooding up to 50 mm above Rail Level as follows: 1. In the event of flooding at any level below Rail Level, the Train shall operate in full compliance with these Specifications and Standards. 2. In the event of flooding at a height between Rail Level and 50 mm above Rail Level, the Train shall operate in full compliance with these Specifications and Standards with the exception that it is permissible to restrict the operation of the Train to a maximum of 10 km/h. Allowance is to be made in addition for increase in the height of water level due to the "bow wave" effect of the Train passing through the water.
Design Life	Train is designed for min.30 year of life. Accordingly, the subject items & accessories shall also not deteriorate in their performance for 30 years

Note:

- 1) Ambient temperature for HVAC calculations shall be based on the highest temperature of the Indian region specified in ASHRAE-2021.
- 2) Depending on the operational rule, special speed limits shall be imposed on the Train Sets in conditions where wind speed is 20 m/s or greater. Train Set operation shall cease at wind speeds of 30 m/s or greater
- 3) The temperature of the metal surfaces of the vehicles when exposed directly to the sun, for long periods of time, may be assumed to rise to 70°C.
- 4) Any moisture condensation shall not lead to any malfunction or failure.
- 5) Adequate margin shall specially be built into the design particularly to take care of the higher ambient temperatures, high humidity, dusty and corrosive conditions, etc. prevailing in Mumbai – Ahmedabad area.

7. Qualification Criteria

- 1) The testing agency shall have proven experience record of conducting such tests in at least 3 projects in the last 10 years for Rolling Stock designed for 250 kmph or above. Supporting documents shall be submitted.

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8. Section Availability:

- a) Approximately 46 km main line section between Bilimora-Surat will be available by Dec 2026. However, final route details for testing will be decided mutually with train operator before testing.

9. Schedule for Train level testing

- a) Conducting tests as per Train level EMC-EMI test Procedure – Schedule will be intimated by BEML (Tentatively between April 2027 and August 2027).
- b) In view of the stringent project schedule, no exclusive/separate testing window shall be provided. The testing agency shall plan and conduct the test in coordination with BEML and in accordance with the approved Inspection and Test Plan (ITP) and overall project schedule. To align with the timelines, testing agency may require to work in two shifts.

10. Contract Specification on BEML

Clause 7.1: General

Clause No.	Clause Description	Compliance	Remarks
7.1.1	The design validation agency shall establish a testing and commissioning plan consisting, but not limited to, the following aspects: (i) design validation agency's methodology for inspection, testing and commissioning; (ii) all inspections and quality hold points; (iii) the objectives of each test and criteria for successful tests; (iv) organization chart of key personnel in the Testing and Commissioning team; (v) submission of inspection and test specifications and procedures.		

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7.1.2	Purchaser / Nominated Agency shall undertake a review of the above received documents and issue a notice of either no-objection (or) no-objection with comments (or) objection with comments to the design validation agency within four (04) weeks from the date of receiving, upon which the Design validation agency shall appropriately respond and conduct the inspections and tests as required in this TS.		
7.1.3	In the event on notice of objection with comments, the design validation agency shall take such steps or make such changes in the said methods or supply such further documents or information as may be necessary to meet the Purchaser's requirements and to obtain his notice of no-objection. The design validation agency shall not change the methods of inspection, testing and commissioning (including Integrated Testing and Commissioning) which have received no-objection from the Purchaser/Nominated Agency without further review and consent in writing of the Purchaser/Nominated Agency.		
7.1.5	Tests and test procedures shall be submitted by the design validation agency for acceptance by the Purchaser unless specified otherwise elsewhere in these Specifications and Standards.		

**Clause 7.2: Integrated Testing and Commissioning of Trains with Infrastructure
(Train level EMI/EMC test)**

Clause No.	Clause Description	Compliance	Remarks
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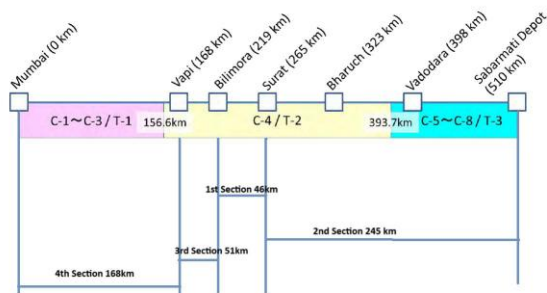
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7.2.1	General (i) For integrated testing and commissioning of the fixed infrastructure namely civil structure, track, overhead power supply equipment, signaling and telecommunication equipment of complete MAHSR sections along with associated testing and usage of Rolling Stock (referred to as "Train level EMI/EMC test" hereinafter), the Design validation agency shall ensure the availability of Rolling Stock during Train level EMI/EMC test as well as its compatibility with required interfacing systems. Confirmation of contact loss		
	(ii) The Train level EMI/EMC test consists of Static Inspection, shall include static inspection of the infrastructure. And Dynamic Inspection, which is conducted by actual Train running.		
	(iii) Prior to the implementation of train level EMI/EMC test, Design validation agency shall scrutinize the design, installation and test status of the Train for ensuring speed potential up to the maximum operating speed along with safety and stability of the Train.		

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(iv) The Train Level EMC-EMI test shall be done in the Trial Section in stages. As a reference the sections shown below may be considered and it can be revised later based on Purchaser's requirements. Testing Agency shall note that simultaneous testing of two (02) or more stages is not considered.



However, the available section for testing will be from VAPI (168km) to SURAT (265km).

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7.2.8

Role of the Testing/Design validation agency

Major activities of the Design validation agency shall be as follows:

- a) Design validation agency shall deploy a dedicated team of personnel for conducting Train Level EMC-EMI test whenever Nominated Agency intimated.
- b) Design validation agency shall work in cooperation with related contractors/parties in the execution of Train level EMI/EMC test;
- c) Design validation agency shall place "safety" as the first priority in all activities related to the train level EMI/EMC test.
- d) All defects and shortfalls in the Design validation agency's system, discovered in the course of Train level EMI/EMC test, shall be made good and re-tested to the satisfaction of the Purchaser.
- e) NA
- f) Design validation agency shall cooperate with other contractors identified by Nominated Agency in installing and uninstalling of measuring equipment on/from the rolling stock as and when needed during the period of Train level EMI/EMC test.
- g) Design validation agency shall remove temporary fittings, if necessary, for the delivery of his items and shall restore the fittings to the original state and to the satisfaction of the Nominated Agency.

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Clause 7.3: Testing of Train

Clause No.	Clause Description	Compliance	Remarks
7.3.1.1	Design validation agency, at its own cost and expense, shall carry out all Tests as detailed in this TS and such other Tests that the Design validation agency may consider necessary to demonstrate that the Trains comply in all respects with these Specifications and Standards. The Design validation agency shall provide to the Purchaser / Nominated Agency forthwith, a copy of the Design validation agency's report on each test containing the results of each test and the action, if any that it proposes to take for compliance with these Specifications and Standards.		
7.3.1.2	All type tests shall be conducted by Testing Agency wherever performed in presence of and to the satisfaction of Nominated Agency, who reserves the right to witness any or all of the tests. Nominated Agency on its own cost, may deploy an Independent Safety Assessor (ISA) to witness any or all of the tests.		
7.3.1.3	All tests and trials on Train level will be carried out on TS#01. Tests & trials already carried out on TS#01 will generally not be repeated on subsequent Trains except the routine tests as mentioned in this Specifications. Detailed test plan will be finalized during design stage.		
7.3.1.5	Wherever any equipment, system, sub system is not specifically covered by an international recognized specification or test procedure, the tests which are acceptable to both to Testing Agency and to the Nominated Agency shall be devised.		
7.3.1.6	Without prejudice to any provisions of the contract, the Purchaser, on its own costs and expense, reserves the right to witness any or all of the type tests and to require submission of any or all test specification and reports.		

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7.3.1.7	The Design validation agency shall arrange instrumentation and record speed, voltage, current, temperature rise of various equipment, energy consumption, tractive effort and other relevant parameter as necessary for ensuring compliance of these Specifications and Standards		
7.3.1.8	The temperature of the various parts of the electrical and control equipment shall be recorded during the Tests as per the standard procedure specified. The Design validation agency shall supervise and carry out the Tests at its works at the site and shall provide all equipment and consumables necessary for such Tests. – The design validation agency shall register the relevant climatic conditions during the tests.		
7.3.1.9	The Design validation agency shall submit a detailed test plan for specified trials indicating the tests to be conducted, procedure/method to be followed for tests, parameters to be measured and devices/instruments to be used; and Pass/Fail criteria etc. for approval. Submitted test plans shall be as per IEC 61133-2016 and after the approval from Nominated Agency. After successful completion of the tests & trials and acceptance of the results, TS#01 will be cleared by Nominated Agency for commercial services.		
7.3.3.1	Generally, test procedures shall be followed as per the latest IECs of equipment/systems/Sub-systems testing		
7.3.4	Complete Train: Complete Train shall be type & routine tested as per IEC 61133:2016 and as per the test program agreed by Nominated Agency. After erection, the complete equipment shall satisfactorily withstand the dielectric voltages as specified in the IEC specification.		

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7.3.4.2.	Interference Test: Tests to determine the levels of interference with traction power supply, signal and telecommunication equipment and facilities to prove that these are within acceptable limits in accordance with the Specifications and Standards. The Design validation agency shall provide a necessary complete set of calibrated equipment/instrumentation and technical guidance to verify such parameters, which are necessary for evaluation of the Trains.		
7.3.4.3	Pacemaker Interference Test: This shall include test to verify that any emissions from the equipment of Train do not adversely affect the pacemakers/hearing aids that may be used by the passengers. Test shall be conducted as per EN 45502 and EN 50500.		
7.3.6.1	Each Train shall be commissioned at Maintenance Depot of MAHSR by the testing agency's staff before putting into commercial service.		
7.3.6.4	If considered necessary, instrumentation may also be required during service trials in addition to downloading of subsystem data for analysis. During the TS#01 tests/service trials, if any problem arise or feedback is obtained, which warrants a re-check of the design/manufacture/ quality of the equipment and components, action will be taken as may be necessary by the Design validation agency to carry out the required investigations and to incorporate the modification considered most appropriate to reach compliance with the specification without any extra costs to the Purchaser and in a manner approved by the Nominated Agency on equipment/components already supplied as well as those to be supplied later.		

11. Test Conditions

Electromagnetic Compatibility test shall be carried out as a type test. The test conditions for Electromagnetic Compatibility are listed in Table 1

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Table 5 Test Conditions

Car Type	Test Classification	Test Line	Line Condition	Loading Condition
8-Car Trains (DT-M-T-M-M-T-M-DT)	Type Test	Main line or Depot-Test Track	N/A	Fully Loaded

* Maximum acceleration of rolling stock is defined at AW2 loading

In future 16 Car train operations are envisaged by coupling two 8 Car trains.

12. Test Items and Operation Modes

All the tests for validation of EMC/EMI as per ICF specification specified in Section-10 of this TS are to be carried out and any additional tests also to be carried out as per customer requirement.

The tentative test items and operation modes, are not limited to, for EMC/EMI test are listed in the following Table 2.

Table 6 Test Items for EMC test

No.	Test item	Application standard	Operation mode	Remark
1	Radio frequency interference	- IEC 61133 - EN 50121-3-1:2017 / IEC 62236-3-1EN 50121-2 - EN 50121-2:2017/ IEC 62236-2 - EN55011/ CISPR-1-1	BG, ST, SS in normal operation	Refer Annexure-5: MAE676_Radio Frequency Interference Test_CD-4280 - Rev.00
2	Rolling stock Emission Compatibility with Axle Counter	- EN 50592: 2016-10 [R01] - CLC/TS 50238-3: 2022-01 [R02]	BG, ST, SS in normal & Degraded operation	Refer Annexure-6: MAE676_Rolling stock Emission Compatibility with Axle Counter Test_CD-4282-Rev00
3	Pacemaker Interference Test	- EN 50500:2008+A1:2015 - EN 45502-2-1 - ICNIRP Guidelines 2010 - EN ISO/IEC 17025	BG, ST, HS in normal operation	Refer Annexure-4: MAE676_Pacemaker Interference Test_CD-4281 - Rev.00

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No.	Test item	Application standard	Operation mode	Remark
4	Harmonic Measurement Test	- EN 50388 - IEEE 519_2022 - IEC 61000-3-6	ST, PO, BR, MS, HS, Normal & Degraded operation	Refer Annexure-3: MAE676_Harmonic Measurement Test_CD-4279 - Rev.01

13. Operation modes for Electromagnetic Compatibility test

The list of operation for EMC/EMI test are listed in the following Table 3:

Table 7 Operation modes for EMC test

Sl. No.	Operation mode	Description
1	BG	Background noise shall be measured at the test site in the absence of train effects.
2	ST	Stationary in an energized mode (converter, battery charger, etc., in operation). Stationary mode with ACU power on. ACU is operating on the railway at steady load for a period of 30 seconds.
3	SS	Slow speed moving test, 50 ± 10 kph
4	PO	Apply maximum powering mode. Accelerate from standstill with full acceleration to defined speeds in the range of 50 kmph.
5	BR	Apply maximum regenerative braking mode from defined speeds in the range of 50 kmph and 100 kmph, to ensure that traction inverter sweeps through all of the PWM modes and covers the maximum tractive effort.
6	MS	Medium speed moving test, 100 kmph Note. The speed at maximum rated power is 100 kmph
7	HS	High-speed moving test, (1.1) a speed of ~ 90% of maximum service speed (1.2) a maximum service speed – 249 kph* (maximum possible safe speed in the mainline shall be considered, 249 kph is not mandatory)
8	Normal operation	Train formation: 4M-4T, all motors operating
9	Degraded Operation	Train formation: 3M-1M (no Power)-4T, 25% of motors cut out (2 LTC cut out)
		Train formation: 2M-2M (No Power)-4T, 50% of motors cut out (4 LTC cut out)

14.

14. Test Instruments and description of test set up

The detailed list of test Equipments and instruments used for the EMC-EMI Testing shall be submitted after completion of respective test by Testing agency. The calibration due date and the serial number of each instruments used will be included

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in the test report. Submit prior to starting of test same can be included as part of the test.

15. Test Description

The Electromagnetic Compatibility (EMC) tests will be performed in accordance with the following procedures mentioned in the table-3:

Table 8 List of EMC/EMI testing protocols

Sl. No.	Test Item	Document ID/No.	Revision No.	Test Protocol/ Procedure
1	Rake Level Radio Frequency Interference Test	MAE676/Radio Frequency Interference Test, CD-4280	00	Refer Annexure-5: MAE676_Radio Frequency Interference Test_CD-4280 - Rev.00
2	Rolling Stock Emission Compatibility with Axle Counter Test	MAE676/Rollingstock Emission Compatibility with Axle Counter Test, CD-4282	00	Refer Annexure-6: MAE676_Rolling stock Emission Compatibility with Axle Counter Test_CD-4282-Rev00
3	Rake Level Pacemaker Interference Test	MAE676/Pacemaker Test, CD- 4281	00	Refer Annexure-4: MAE676_Pacemaker Interference Test_CD-4281 - Rev.00
4	Rake Level Harmonic Measurement Test	MAE676/Harmonic Measurement Test, CD-4279	01	Refer Annexure-3: MAE676_Harmonic Measurement Test_CD-4279 - Rev.01

16. An Overview of the Contents of the Test Report

The test report will contain, not limited, the following information.

- Date & period of tests
- Location of tests
- Weather conditions
- Test instruments
- Pictures for Equipment set up
- Numerical or graphical results of each test

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17. Submittals

The Testing Agency/Design Validation Agency shall provide the following as part of technical offer:

- Complete testing procedures for each testing item of train level EMC-EMI testing for main line validation of along with technical description, Specification, drawing, duration...etc., details for each test as applicable.
- The Testing Agency shall submit detailed test procedures, measurement methodology, instrumentation details and proposed acceptance criteria along with the Technical Bid. The proposed test procedure and acceptance criteria shall be reviewed and mutually agreed between the Train Operator and BEML prior to commencement of testing.
- Clause wise compliance against, Test Specification (TS) - Doc no. FPIIC/TD/086 and its Annexures in the following format

Clause No	Response (Complied/Not Complied)	Remarks

Where,

- Complied: "Complied" shall be indicated by the supplier where the supplier is able to comply with the clause.
 - Complied with comments" will be considered as fully complied for the clause with no additional commercial impact.
- Experience details and supporting documents with references for same / similar testing for satisfactory completion as per qualification criteria (section 7) of this document.
 - The Testing Agency shall submit company profile with infrastructure facilities, testing range, test duration...etc, along with technical offer.

18. Annexures

Table 9 List of Annexures

Sl. No.	Description	Document/Drawing No.	Revision No.
1	Preliminary Design of EMC/EMI Control Plan	FPIIC/TD/232	01
2	Tentative Layout of Trainset	840-000100-14	14
3	Rake Level Harmonic Measurement Test for High-Speed Train set (B28)	MAE676/Harmonic Measurement Test, CD- 4279	01
4	Rake Level Pacemaker Interference Test for High-Speed	MAE676/Pacemaker Test, CD- 4281	00

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	Train set (B28)		
5	Rake Level Radio Frequency Interference Test for High-Speed Train set (B28)	MAE676/Radio Frequency Interference Test, CD-4280	00
6	Rollingstock Emission Compatibility with Axle Counter Test for High-Speed Train set (B28)	MAE676/Rollingstock Emission Compatibility with Axle Counter Test, CD-4282	00
7	Compliance Matrix Sheet for FPIIC/TD/086	--	--
8	Compliance Matrix Sheet – TTC Tender Technical Conditions	Annexure-1	--

- The End of Document -