

| PROJECT         | CUSTOMER | TRAIN     |
|-----------------|----------|-----------|
| Xtrapolis-PRASA | PRASA    | 213 – TFD |

RTR Train Functional Dynamic Testing TS213 Report  
GIB0000006276



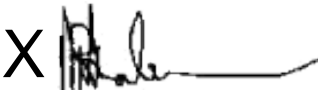


|           | CREATED         | VERIFIED          | APPROVED        | DISTRIBUTION  |
|-----------|-----------------|-------------------|-----------------|---|
| Name      | Neliswa MABUNDA | Nkululeko NDOVELA | Kgomotso NKOANA | Confidentiality Category<br><i>Restricted</i> <i>Project</i> <i>Normal</i><br><input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> |
| Date      | 21/03/2024      | 21/03/2024        | 21/03/2024      | Control Category<br><i>Controlled</i> <i>Not Controlled</i><br><input checked="" type="checkbox"/> <input type="checkbox"/>   |
| Signature |                 |                   |                 | Language<br><b>EN</b>   |

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## Table of modifications

| Rev | Date       | Modifications Content | Writer          |
|-----|------------|-----------------------|-----------------|
| A0  | 21/03/2024 | Creation              | Neliswa MABUNDA |

## Internal validations

|                 | Name              | Function                 | Date       | Signature   |
|-----------------|-------------------|--------------------------|------------|---|
| <b>Creator</b>  | Neliswa MABUNDA   | EPU Manager              | 21/03/2024 | <div>X </div> <div>Neliswa MABUNDA<br/>EPU Manager</div>                  |
| <b>Verifier</b> | Nkululeko NDOVELA | Test Engineering Manager | 21/03/2024 | <div>X </div> <div>Nkululeko NDOVELA<br/>Test Engineering Manager</div> |
| <b>Approver</b> | Kgomotso NKOANA   | Test Expert              | 21/03/2024 | <div>X </div> <div>Kgomotso NKOANA<br/>Test Expert</div>                |

## Execution Plan

|                   |            |
|-------------------|------------|
| <b>Start Date</b> | 18/03/2024 |
| <b>End Date</b>   | 18/03/2024 |

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Serial Tests Report  
TS213 – TFD  
RTR Train Functional Static Test Report

Document Reference  
GIB0000006276  
Version: A0

Emission date  
21/03/2024

## Section 1 – Purpose / Objectives

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|   |  |                             |
|---|--|-----------------------------|
| Serial Tests Report<br>TS213 – TFD<br>RTR Train Functional Static Test Report | Document Reference<br>GIB0000006276<br>Version: A0 | Emission date<br>21/03/2024 |
|---|--|-----------------------------|

## Section 3 – Dynamic

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### 3.3 Instructions list

### 3.3.1 TFD-Dynamic

I - Information      A - Action      R - Result      NE - Not Executed

| N°    | Type | Instruction  | File  | Result status | Result value | Operator                        | Vehicle |
|-------|------|--|---|---------------|--------------|---------------------------------|---------|
| 10001 | I    | Dynamic Test   |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10002 | I    | Initial conditions   |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10003 | I    | This test shall be done under dry weather conditions i.e. no rain  |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10004 | I    | This test shall be carried out on a straight rail(R>=700m). The track must be well bedded with a maximum gradient =<5% of 3 km length. The track must be dry and clean before commencing the test to prevent degraded adhesion conditions. |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10005 | I    | The catenary nominal voltage should be 3.3 +/- 0.3 kV DC.  |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10006 | I    | The test must be done with a complete 6-car configuration Prasa X'Trapolis Train.  |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10007 | I    | All routine static tests must be completed before commencing with this test, unless authorization has been given by Management   |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10008 | I    | Dynamic Pre-Test has been completed  |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10009 | I    | The test shall be performed in M1 load configuration   |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10010 | I    | Have a laptop ready with Train Tracer installed and loaded with the dashboard attached.  |  | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10011 | I    | Refer to this image for all lamp in alarm module   |  | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10012 | I    | Initial Conditions   |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |
| 10013 | I    | Deadman switch 60S1 is in NORMAL position on both TC cars  |   | OK            |              | Thandanani Makhanya<br>- 463827 | Train   |

|       |   |   |  |    |         |                                 |       |
|-------|---|---|--|----|---------|---------------------------------|-------|
| 10014 | I | The Traction Isolation switch 22S1 should be in NORMAL position on both TC cars |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10015 | A | Put the ERTMS switch 62S1 in ISOLATION position in both TC cars                 |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10016 | A | Apply the Safety procedure for movements before starting the test below         |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10017 | I | All traction units are in black colour on the DDU maintenance screen            |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10018 | A | Prepare the train in high voltage with active cab on TC1                        |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10019 | R | Read Min [TT] BKT_LineVoltageGl :<br>2700<= x                                   |  | OK | 3211.34 | Thandanani Makhanya<br>- 463827 | Train |
| 10020 | I | Movement preparation  |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10021 | A | Put the switch 45S1 to 0 position to release the parking brake                  |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10022 | A | Select Driving Mode to EFFORT position  |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10023 | A | Put the direction selector switch in FORWARD position in TC1                    |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10024 | R | Lamp 31H1 is "ON" on the alarm module   |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10025 | R | TA appears on DDU screen  |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10026 | A | Force [TT]<br>(TBCU1)DSP2_WR_inv_B_inv_on =<br>0.0                              |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10027 | A | Force [TT]<br>(TBCU2)DSP2_WR_inv_B_inv_on =<br>0.0                              |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10028 | A | Force [TT]<br>(TBCU3)DSP2_WR_inv_B_inv_on =<br>0.0                              |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10029 | A | Force [TT]<br>(TBCU4)DSP2_WR_inv_B_inv_on =<br>0.0                              |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |
| 10030 | A | Slowly move the Master Controller to TRACTION position                          |  | OK |         | Thandanani Makhanya<br>- 463827 | Train |



|       |   |   |  |    |   |                                 |       |
|-------|---|---|--|----|---|---------------------------------|-------|
| 10031 | R | The train does not move   |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10032 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu1EffAchPerc = 0.0   |  | OK | 0 | Thandanani Makhanya<br>- 463827 | Train |
| 10033 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu2EffAchPerc = 0.0   |  | OK | 0 | Thandanani Makhanya<br>- 463827 | Train |
| 10034 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu3EffAchPerc = 0.0   |  | OK | 0 | Thandanani Makhanya<br>- 463827 | Train |
| 10035 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu4EffAchPerc = 0.0   |  | OK | 0 | Thandanani Makhanya<br>- 463827 | Train |
| 10036 | A | Release [TT]<br>(TBCU1)DSP2_WR_inv_B_inv_on   |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10037 | A | Release [TT]<br>(TBCU2)DSP2_WR_inv_B_inv_on   |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10038 | A | Release [TT]<br>(TBCU3)DSP2_WR_inv_B_inv_on   |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10039 | A | Release [TT]<br>(TBCU4)DSP2_WR_inv_B_inv_on   |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10040 | A | Put the direction selector switch in<br>NEUTRAL position in TC1   |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10041 | R | Read Defined Variable [TT]<br>(MPU1)bcu1_tlnb = 0.0   |  | OK | 0 | Thandanani Makhanya<br>- 463827 | Train |
| 10042 | R | Read Defined Variable [TT]<br>(MPU1)li_drc_tc1dsnozeror1 = 0.0  |  | OK | 0 | Thandanani Makhanya<br>- 463827 | Train |
| 10043 | A | Put the direction selector switch to<br>FORWARD and again in NEUTRAL<br>position to reset the emergency brake |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10044 | I | Traction and Electric Brake - Wheel Turn<br>Test  |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10045 | A | Prepare and run Dynamic dashboard   |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10046 | A | Record and SAVE the above dashboard for<br>each car   |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10047 | I | Traction and Brake M4 - Wheel Turn Test   |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |
| 10048 | A | Force [TT]  |  | OK |   | Thandanani Makhanya<br>- 463827 | Train |

|       |   |   |  |    |      |                                 |       |
|-------|---|---|--|----|------|---------------------------------|-------|
|       |   | (TBCU1)DSP2_WR_inv_B_inv_on = 0.0   |  |    |      |                                 |       |
| 10049 | A | Force [TT]<br>(TBCU2)DSP2_WR_inv_B_inv_on = 0.0   |  | OK |      | Thandanani Makhanya<br>- 463827 | Train |
| 10050 | A | Force [TT]<br>(TBCU3)DSP2_WR_inv_B_inv_on = 0.0   |  | OK |      | Thandanani Makhanya<br>- 463827 | Train |
| 10051 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu1TcuDinC1 = 1.0   |  | OK | 1    | Thandanani Makhanya<br>- 463827 | Train |
| 10052 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu2TcuDinC2 = 1.0   |  | OK | 1    | Thandanani Makhanya<br>- 463827 | Train |
| 10053 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu3TcuDinC3 = 1.0   |  | OK | 1    | Thandanani Makhanya<br>- 463827 | Train |
| 10054 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu4TcuDinC4 = 1.0   |  | OK | 1    | Thandanani Makhanya<br>- 463827 | Train |
| 10055 | A | Put the direction selector switch in FORWARD position   |  | OK |      | Thandanani Makhanya<br>- 463827 | Train |
| 10056 | A | Put the Master controller in 100% TRACTION immediately, accelerate to speed 15 km/h   |  | OK |      | Thandanani Makhanya<br>- 463827 | Train |
| 10057 | R | The train is moving forward towards TC1 direction   |  | OK |      | Thandanani Makhanya<br>- 463827 | Train |
| 10058 | R | Read Min [TT]<br>(MPU1)BKT_Tbcu4EffAchPerc : 1<= x  |  | OK | 100  | Thandanani Makhanya<br>- 463827 | Train |
| 10059 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu2EffAchPerc = 0.0   |  | OK | 0    | Thandanani Makhanya<br>- 463827 | Train |
| 10060 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu3EffAchPerc = 0.0   |  | OK | 0    | Thandanani Makhanya<br>- 463827 | Train |
| 10061 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu1EffAchPerc = 0.0   |  | OK | 0    | Thandanani Makhanya<br>- 463827 | Train |
| 10062 | I | For FORWARD direction:<br>Speed sensor 1 axle 1 (+)<br>Speed sensor 2 axle 1 (direction) (-)<br>Speed sensor axle 2 (+)<br>Speed sensor axle 3 (+)<br>Speed sensor axle 4 (+) |  | OK |      | Thandanani Makhanya<br>- 463827 | Train |
| 10063 | R | Read Min [TT]   |  | OK | 4.29 | Thandanani Makhanya<br>- 463827 | Train |

|       |   |   |  |    |       |                                 |       |
|-------|---|---|--|----|-------|---------------------------------|-------|
|       |   | (TBCU4)dsp2_rd_inv_fq_axle0_4 : 1<=<br>x  |  |    |       |                                 |       |
| 10064 | R | Result Max [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle1_4 : x<br><= 0                                |  | OK | -4.84 | Thandanani Makhanya<br>- 463827 | Train |
| 10065 | R | Read Min [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle2_4 : 1<=<br>x                                   |  | OK | 5     | Thandanani Makhanya<br>- 463827 | Train |
| 10066 | R | Read Min [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle3_4 : 1<=<br>x                                   |  | OK | 5.11  | Thandanani Makhanya<br>- 463827 | Train |
| 10067 | R | Read Min [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle4_4 : 1<=<br>x                                   |  | OK | 5.24  | Thandanani Makhanya<br>- 463827 | Train |
| 10068 | A | Put the Master controller in BRAKE<br>position until the train comes to a<br>complete stop  |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10069 | A | Put the direction selector switch in<br>REVERSE position                                    |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10070 | A | Put the Master controller in TRACTION<br>position and slowly accelerate to speed <5<br>km/h |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10071 | R | The train is moving backward towards<br>TC2 direction                                       |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10072 | R | Result Max [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle0_4 : x<br><= 0                                |  | OK | -0.88 | Thandanani Makhanya<br>- 463827 | Train |
| 10073 | R | Read Min [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle1_4 : 1<=<br>x                                   |  | OK | 1.12  | Thandanani Makhanya<br>- 463827 | Train |
| 10074 | A | Put the Master controller in BRAKE<br>position until the train comes to a<br>complete stop  |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10075 | A | Release [TT]<br>(TBCU1)DSP2_WR_inv_B_inv_on   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10076 | I | Traction and Brake M1 - Wheel Turn Test   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10077 | A | Force [TT]<br>(TBCU4)DSP2_WR_inv_B_inv_on =<br>0.0  |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |

|       |   |   |  |    |       |                                 |       |
|-------|---|---|--|----|-------|---------------------------------|-------|
| 10078 | A | Put the direction selector switch in FORWARD position                                 |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10079 | A | Put the Master controller in 100% TRACTION immediately, accelerate to speed 15 km/h   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10080 | R | The train is moving forward towards TC1 direction                                     |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10081 | R | Read Min [TT]<br>(MPU1)BKT_Tbcu1EffAchPerc : 1<= x                                    |  | OK | 100   | Thandanani Makhanya<br>- 463827 | Train |
| 10082 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu2EffAchPerc = 0.0                         |  | OK | 0     | Thandanani Makhanya<br>- 463827 | Train |
| 10083 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu3EffAchPerc = 0.0                         |  | OK | 0     | Thandanani Makhanya<br>- 463827 | Train |
| 10084 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu4EffAchPerc = 0.0                         |  | OK | 0     | Thandanani Makhanya<br>- 463827 | Train |
| 10085 | R | Read Min [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle0_1 : 1<= x                                |  | OK | 3.06  | Thandanani Makhanya<br>- 463827 | Train |
| 10086 | R | Result Max [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle1_1 : x <= 0                             |  | OK | -3.17 | Thandanani Makhanya<br>- 463827 | Train |
| 10087 | R | Read Min [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle2_1 : 1<= x                                |  | OK | 3.48  | Thandanani Makhanya<br>- 463827 | Train |
| 10088 | R | Read Min [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle3_1 : 1<= x                                |  | OK | 3.59  | Thandanani Makhanya<br>- 463827 | Train |
| 10089 | R | Read Min [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle4_1 : 1<= x                                |  | OK | 3.92  | Thandanani Makhanya<br>- 463827 | Train |
| 10090 | A | Put the Master controller in BRAKE position until the train comes to a complete stop  |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10091 | A | Put the direction selector switch in REVERSE position                                 |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10092 | A | Put the Master controller in TRACTION position and slowly accelerate to speed <5 km/h |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |


|       |   |  |  |    |       |                              |       |
|-------|---|--|--|----|-------|------------------------------|-------|
| 10093 | R | The train is moving backward towards TC2 direction                                   |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10094 | R | Result Max [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle0_1 : x<br>≤ 0                          |  | OK | -2.25 | Thandanani Makhanya - 463827 | Train |
| 10095 | R | Read Min [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle1_1 : 1≤ x                                |  | OK | 2.45  | Thandanani Makhanya - 463827 | Train |
| 10096 | A | Put the Master controller in BRAKE position until the train comes to a complete stop |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10097 | A | Release [TT]<br>(TBCU2)DSP2_WR_inv_B_inv_on  |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10098 | I | Traction and Brake M2 - Wheel Turn Test  |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10099 | A | Force [TT]<br>(TBCU1)DSP2_WR_inv_B_inv_on = 0.0                                      |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10100 | A | Put the direction selector switch in FORWARD position                                |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10101 | A | Put the Master controller in 100% TRACTION immediately, accelerate to speed 15 km/h  |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10102 | R | The train moves forward towards TC1 direction  |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10103 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu1EffAchPerc = 0.0                        |  | OK | 0     | Thandanani Makhanya - 463827 | Train |
| 10104 | R | Read Min [TT]<br>(MPU1)BKT_Tbcu2EffAchPerc : 1≤ x                                    |  | OK | 101   | Thandanani Makhanya - 463827 | Train |
| 10105 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu3EffAchPerc = 0.0                        |  | OK | 0     | Thandanani Makhanya - 463827 | Train |
| 10106 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu4EffAchPerc = 0.0                        |  | OK | 0     | Thandanani Makhanya - 463827 | Train |
| 10107 | R | Result Max [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle0_2 : x<br>≤ 0                          |  | OK | -1.95 | Thandanani Makhanya - 463827 | Train |
| 10108 | R | Read Min [TT]  |  | OK | 2.29  | Thandanani Makhanya - 463827 | Train |

|       |   |   |  |    |       |                                 |       |
|-------|---|---|--|----|-------|---------------------------------|-------|
|       |   | (TBCU2)dsp2_rd_inv_fq_axle1_2 : 1<= x   |  |    |       |                                 |       |
| 10109 | R | Read Min [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle2_2 : 1<= x                                |  | OK | 2.28  | Thandanani Makhanya<br>- 463827 | Train |
| 10110 | R | Read Min [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle3_2 : 1<= x                                |  | OK | 2.28  | Thandanani Makhanya<br>- 463827 | Train |
| 10111 | R | Read Min [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle4_2 : 1<= x                                |  | OK | 2.31  | Thandanani Makhanya<br>- 463827 | Train |
| 10112 | A | Put the Master controller in BRAKE position until the train comes to a complete stop  |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10113 | A | Put the direction selector switch in REVERSE position                                 |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10114 | A | Put the Master controller in TRACTION position and slowly accelerate to speed <5 km/h |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10115 | R | The train moves backward towards TC2 direction  |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10116 | R | Read Min [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle0_2 : 1<= x                                |  | OK | 2.03  | Thandanani Makhanya<br>- 463827 | Train |
| 10117 | R | Result Max [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle1_2 : x <= 0                             |  | OK | -2.14 | Thandanani Makhanya<br>- 463827 | Train |
| 10118 | A | Put the Master controller in BRAKE position until the train comes to a complete stop  |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10119 | A | Release [TT]<br>(TBCU3)DSP2_WR_inv_B_inv_on   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10120 | I | Traction and Brake M3 - Wheel Turn Test   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10121 | A | Force [TT]<br>(TBCU2)DSP2_WR_inv_B_inv_on = 0.0                                       |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10122 | A | Put the direction selector switch in FORWARD position                                 |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |

|       |   |   |  |    |       |                              |       |
|-------|---|---|--|----|-------|------------------------------|-------|
| 10123 | A | Put the Master controller in 100% TRACTION immediately, accelerate to speed 15 km/h   |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10124 | R | The train moves forward towards TC1 direction   |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10125 | R | Read Defined Variable [TT] (MPU1)BKT_Tbcu1EffAchPerc = 0.0                            |  | OK | 0     | Thandanani Makhanya - 463827 | Train |
| 10126 | R | Read Defined Variable [TT] (MPU1)BKT_Tbcu2EffAchPerc = 0.0                            |  | OK | 0     | Thandanani Makhanya - 463827 | Train |
| 10127 | R | Read Min [TT] (MPU1)BKT_Tbcu3EffAchPerc : 1<= x                                       |  | OK | 100   | Thandanani Makhanya - 463827 | Train |
| 10128 | R | Read Defined Variable [TT] (MPU1)BKT_Tbcu4EffAchPerc = 0.0                            |  | OK | 0     | Thandanani Makhanya - 463827 | Train |
| 10129 | R | Result Max [TT] (TBCU3)dsp2_rd_inv_fq_axle0_3 : x <= 0                                |  | OK | -3.17 | Thandanani Makhanya - 463827 | Train |
| 10130 | R | Read Min [TT] (TBCU3)dsp2_rd_inv_fq_axle1_3 : 1<= x                                   |  | OK | 3.31  | Thandanani Makhanya - 463827 | Train |
| 10131 | R | Read Min [TT] (TBCU3)dsp2_rd_inv_fq_axle2_3 : 1<= x                                   |  | OK | 3.43  | Thandanani Makhanya - 463827 | Train |
| 10132 | R | Read Min [TT] (TBCU3)dsp2_rd_inv_fq_axle3_3 : 1<= x                                   |  | OK | 3.54  | Thandanani Makhanya - 463827 | Train |
| 10133 | R | Read Min [TT] (TBCU3)dsp2_rd_inv_fq_axle4_3 : 1<= x                                   |  | OK | 3.72  | Thandanani Makhanya - 463827 | Train |
| 10134 | A | Put the Master controller in BRAKE position until the train comes to a complete stop  |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10135 | A | Put the direction selector switch in REVERSE position                                 |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10136 | A | Put the Master controller in TRACTION position and slowly accelerate to speed <5 km/h |  | OK |       | Thandanani Makhanya - 463827 | Train |
| 10137 | R | The train moves backward towards TC2 direction  |  | OK |       | Thandanani Makhanya - 463827 | Train |

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|-------|---|---|--|----|-------|---------------------------------|-------|
| 10138 | R | Read Min [TT]<br>(TBCU3)dsp2_rd_inv_fq_axle0_3 : 1<=<br>x   |  | OK | 1.39  | Thandanani Makhanya<br>- 463827 | Train |
| 10139 | R | Result Max [TT]<br>(TBCU3)dsp2_rd_inv_fq_axle1_3 : x<br><= 0  |  | OK | -1.46 | Thandanani Makhanya<br>- 463827 | Train |
| 10140 | A | Put the Master controller in BRAKE<br>position until the train comes to a<br>complete stop  |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10141 | I | Wheel Turn Test Results Check   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10142 | A | Analyse the recorded results before<br>continuing with the test. If the results are<br>out of range, the test must be STOPPED<br>immediately, and the respective car motor<br>wiring needs to be checked. |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10143 | R | M4 - Time taken to reach 15km/h<br>Result Max : x <= 24 (s)   |  | OK | 21.31 | Thandanani Makhanya<br>- 463827 | Train |
| 10144 | R | M1 - Time taken to reach 15km/h<br>Result Max : x <= 24 (s)   |  | OK | 21.71 | Thandanani Makhanya<br>- 463827 | Train |
| 10145 | R | M2 - Time taken to reach 15km/h<br>Result Max : x <= 24 (s)   |  | OK | 22.21 | Thandanani Makhanya<br>- 463827 | Train |
| 10146 | R | M3 - Time taken to reach 15km/h<br>Result Max : x <= 24 (s)   |  | OK | 21.67 | Thandanani Makhanya<br>- 463827 | Train |
| 10147 | R | All M cars reach 15km/h in less than 24<br>seconds  |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10148 | I | All Motors Test Run   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10149 | A | Release [TT]<br>(TBCU1)DSP2_WR_inv_B_inv_on   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10150 | A | Release [TT]<br>(TBCU2)DSP2_WR_inv_B_inv_on   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10151 | A | Release [TT]<br>(TBCU4)DSP2_WR_inv_B_inv_on   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10152 | A | Put the direction selector switch in<br>FORWARD position  |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10153 | A | Slowly move the Master Controller to<br>TRACTION position until the train speed<br>reaches 15km/h   |  | OK |       | Thandanani Makhanya<br>- 463827 | Train |
| 10154 | R | Read Defined Variable [TT]<br>(MPU1)bcu1_tlnb = 1.0   |  | OK | 1     | Thandanani Makhanya<br>- 463827 | Train |



|       |   |   |   |    |     |                                 |       |
|-------|---|---|---|----|-----|---------------------------------|-------|
| 10155 | R | Read Defined Variable [TT]<br>(MPU1)li_drc_tc1dsnozeror1 = 1.0  |   | OK | 1   | Thandanani Makhanya<br>- 463827 | Train |
| 10156 | A | Put the Master Controller in OFF position   |   | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10157 | R | The train comes to a standstill   |   | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10158 | I | Wheel Diameter Calibration  |   | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10159 | I | Following conditions need to be met in order to successfully calibrate the wheel diameter. Ensure that the OTDR reference value of a Wheel Diameter has been entered.   |   | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10160 | A | 1) Train running on a straight track<br>2) Effort Driving Mode<br>3) Speed>15km/h<br>4) No wheel slippage<br>5) No Emergency Braking<br>6) Traction Effort = 0% (Coasting)<br>7) All Traction and Braking Units are working |   | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10161 | A | On the DDU screen select "First Acquisition Request"  |   | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10162 | A | Check if the wheel diameter for each axle is between 838 mm and 842 mm, see picture attached.   |  | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10163 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu1WhDiamAx1 : 839<= x <= 841   |   | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10164 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu1WhDiamAx2 : 839<= x <= 841   |   | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10165 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu1WhDiamAx3 : 839<= x <= 841   |   | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10166 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu1WhDiamAx4 : 839<= x <= 841   |   | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10167 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu1WhDiamAx1 : 839<= x <= 841   |   | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10168 | R | Read Min/Max [TT]   |   | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |

|       |   |   |  |    |     |                                 |       |
|-------|---|---|--|----|-----|---------------------------------|-------|
|       |   | (MPU1)BKT_Bcu2WhDiamAx2 : 839<= x<br><= 841                       |  |    |     |                                 |       |
| 10169 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu2WhDiamAx3 : 839<= x<br><= 841  |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10170 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu2WhDiamAx4 : 839<= x<br><= 841  |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10171 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu1WhDiamAx1 : 839<= x<br><= 841 |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10172 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu1WhDiamAx2 : 839<= x<br><= 841 |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10173 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu1WhDiamAx3 : 839<= x<br><= 841 |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10174 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu1WhDiamAx4 : 839<= x<br><= 841 |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10175 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu2WhDiamAx1 : 839<= x<br><= 841 |  | OK | 841 | Thandanani Makhanya<br>- 463827 | Train |
| 10176 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu2WhDiamAx2 : 839<= x<br><= 841 |  | OK | 841 | Thandanani Makhanya<br>- 463827 | Train |
| 10177 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu2WhDiamAx3 : 839<= x<br><= 841 |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10178 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu2WhDiamAx4 : 839<= x<br><= 841 |  | OK | 841 | Thandanani Makhanya<br>- 463827 | Train |
| 10179 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu3WhDiamAx1 : 839<= x<br><= 841 |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10180 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu3WhDiamAx2 : 839<= x<br><= 841 |  | OK | 841 | Thandanani Makhanya<br>- 463827 | Train |
| 10181 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu3WhDiamAx3 : 839<= x<br><= 841 |  | OK | 841 | Thandanani Makhanya<br>- 463827 | Train |

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|-------|---|---|--|----|-----|---------------------------------|-------|
| 10182 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu3WhDiamAx4 : 839<=<br>x <= 841   |  | OK | 841 | Thandanani Makhanya<br>- 463827 | Train |
| 10183 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu4WhDiamAx1 : 839<=<br>x <= 841   |  | OK | 839 | Thandanani Makhanya<br>- 463827 | Train |
| 10184 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu4WhDiamAx2 : 839<=<br>x <= 841   |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10185 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu4WhDiamAx3 : 839<=<br>x <= 841   |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10186 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu4WhDiamAx4 : 839<=<br>x <= 841   |  | OK | 840 | Thandanani Makhanya<br>- 463827 | Train |
| 10187 | I | Brake Tests   |  | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10188 | I | For each test run, ensure the following are done:<br>-Prepare the dashboard on train tracer to record train performance<br>-Activate the relevant cab<br>-Login to DDU as Maintainer (70979080)<br>-Save each performance (only for speed of 60Km/h) result as .CVS on local drive of service laptop<br>-Ensure there is enough space remaining for each run, else put the train at the end of the line<br>-From 40km/h tests IT IS FORBIDDEN to do more than one run at a time on the track, each run should start at the beginning/end of the track |  | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10189 | I | Initial Conditions for each car:<br>-ERTMS is ISOLATED<br>-Driving mode set to EFFORT mode  |  | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10190 | I | ALL the brake tests should be done from the extremities of the test track   |  | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10191 | I | Emergency Brake @ 20km/h TC1  |  | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10192 | A | Force [TT] SBK_BrakeDist = 0.0  |  | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10193 | A | Release [TT] SBK_BrakeDist  |  | OK |     | Thandanani Makhanya<br>- 463827 | Train |
| 10194 | A | Put the direction selector switch in FORWARD position   |  | OK |     | Thandanani Makhanya<br>- 463827 | Train |

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|-------|---|--|--|----|----|------------------------------|-------|
| 10195 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 20 +/- 2 km/h |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10196 | A | Push the emergency brake mushroom button 44S1  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10197 | R | Result Max [TT] SBK_BrakeDist : x <= 42  |  | OK | 27 | Thandanani Makhanya - 463827 | Train |
| 10198 | A | Put the direction selector switch in NEUTRAL position  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10199 | A | Release the emergency brake button 44S1  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10200 | I | Service Brake @ 30km/h TC1   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10201 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10202 | A | Release [TT] SBK_BrakeDist   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10203 | A | Put the direction selector switch in FORWARD position  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10204 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 30 +/- 2 km/h |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10205 | A | Put the Master Controller in 100% BRAKE position   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10206 | R | Result Max [TT] SBK_BrakeDist : x <= 87  |  | OK | 35 | Thandanani Makhanya - 463827 | Train |
| 10207 | A | Put the direction selector switch in NEUTRAL position  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10208 | I | Emergency Brake @ 40km/h TC1   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10209 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |    | Celiwe Sokhela - 491462      | Train |
| 10210 | A | Release [TT] SBK_BrakeDist   |  | OK |    | Celiwe Sokhela - 491462      | Train |
| 10211 | A | Put the direction selector switch in FORWARD position  |  | OK |    | Celiwe Sokhela - 491462      | Train |
| 10212 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 40 +/- 2 km/h |  | OK |    | Celiwe Sokhela - 491462      | Train |
| 10213 | A | Push the emergency brake mushroom button 44S1  |  | OK |    | Celiwe Sokhela - 491462      | Train |

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|-------|---|--|--|----|----|------------------------------|-------|
| 10214 | R | Result Max [TT] SBK_BrakeDist : $x \leq 80$  |  | OK | 62 | Celiwe Sokhela - 491462      | Train |
| 10215 | A | Put the direction selector switch in NEUTRAL position  |  | OK |    | Celiwe Sokhela - 491462      | Train |
| 10216 | A | Release the emergency brake button 44S1  |  | OK |    | Celiwe Sokhela - 491462      | Train |
| 10217 | I | Service Brake @ 20km/h TC2   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10218 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10219 | A | Release [TT] SBK_BrakeDist   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10220 | A | Put the direction selector switch in FORWARD position  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10221 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 20 +/- 2 km/h |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10222 | A | Put the Master Controller in OFF position  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10223 | R | Result Max [TT] SBK_BrakeDist : $x \leq 60$  |  | OK | 24 | Thandanani Makhanya - 463827 | Train |
| 10224 | A | Put the direction selector switch in NEUTRAL position  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10225 | I | Emergency Brake @ 30km/h TC2   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10226 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10227 | A | Release [TT] SBK_BrakeDist   |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10228 | A | Put the direction selector switch in FORWARD position  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10229 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 30 +/- 2 km/h |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10230 | A | Put the Master Controller in OFF position  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10231 | A | Push the emergency brake mushroom button 44S1  |  | OK |    | Thandanani Makhanya - 463827 | Train |
| 10232 | R | Result Max [TT] SBK_BrakeDist : $x \leq 62$  |  | OK | 62 | Thandanani Makhanya - 463827 | Train |
| 10233 | A | Put the direction selector switch in NEUTRAL position  |  | OK |    | Thandanani Makhanya - 463827 | Train |

|       |   |   |   |    |    |                              |       |
|-------|---|---|---|----|----|------------------------------|-------|
| 10234 | A | Release the emergency brake button 44S1   |   | OK |    | Thandanani Makhanya - 463827 | Train |
| 10235 | I | Service Brake @ 40km/h TC2  |   | OK |    | Thandanani Makhanya - 463827 | Train |
| 10236 | A | Force [TT] SBK_BrakeDist = 0.0  |   | OK |    | Thandanani Makhanya - 463827 | Train |
| 10237 | A | Release [TT] SBK_BrakeDist  |   | OK |    | Thandanani Makhanya - 463827 | Train |
| 10238 | A | Put the direction selector switch in FORWARD position   |   | OK |    | Thandanani Makhanya - 463827 | Train |
| 10239 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 40 +/- 2 km/h  |   | OK |    | Thandanani Makhanya - 463827 | Train |
| 10240 | A | Put the Master Controller in 100% BRAKE position  |   | OK |    | Thandanani Makhanya - 463827 | Train |
| 10241 | R | Result Max [TT] SBK_BrakeDist : x <= 113  |   | OK | 80 | Thandanani Makhanya - 463827 | Train |
| 10242 | A | Put the direction selector switch in NEUTRAL position   |   | OK |    | Thandanani Makhanya - 463827 | Train |
| 10243 | I | ERTMS Dynamic   |   | OK |    | Celiwe Sokhela - 491462      | Train |
| 10244 | A | Put the ERTMS switch 62S1 in NORMAL position in both TC cars  |   | OK |    | Celiwe Sokhela - 491462      | Train |
| 10245 | A | Active cab on TC1   |   | OK |    | Celiwe Sokhela - 491462      | Train |
| 10246 | A | Use the procedure attached for ERTMS dynamic commissioning.   |  | OK |    | Celiwe Sokhela - 491462      | Train |
| 10247 | R | Dynamic ERTMS commissioning has been completed successfully   |   | OK |    | Celiwe Sokhela - 491462      | Train |
| 10248 | I | HIGH SPEED TEST   |   | OK |    | Celiwe Sokhela - 491462      | Train |
| 10249 | I | For each and the following high-speed test make sure that the train is positioned at the start of the track, and the driver can see the Eurobalise on the track as shown in the picture attached. |  | OK |    | Celiwe Sokhela - 491462      | Train |
| 10250 | I | Service Brake @ 50km/h TC1  |   | OK |    | Celiwe Sokhela - 491462      | Train |
| 10251 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission  |   | OK |    | Celiwe Sokhela - 491462      | Train |

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|-------|---|--|--|----|----|-------------------------|-------|
| 10252 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10253 | A | Release [TT] SBK_BrakeDist   |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10254 | A | Put the direction selector switch in FORWARD position  |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10255 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 50 +/- 2 km/h             |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10256 | A | Put the Master Controller in 100% BRAKE position   |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10257 | R | Result Max [TT] SBK_BrakeDist : x <= 142   |  | OK | 95 | Celiwe Sokhela - 491462 | Train |
| 10258 | A | Put the direction selector switch in NEUTRAL position  |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10259 | I | Emergency Brake @ 50km/h TC2   |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10260 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                             |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10261 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10262 | A | Release [TT] SBK_BrakeDist   |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10263 | A | Put the direction selector switch in FORWARD position  |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10264 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 50 +/- 2 km/h             |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10265 | A | Push the emergency brake mushroom button 44S1  |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10266 | R | Result Max [TT] SBK_BrakeDist : x <= 100   |  | OK | 87 | Celiwe Sokhela - 491462 | Train |
| 10267 | A | Put the direction selector switch in NEUTRAL position  |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10268 | A | Release the emergency brake button 44S1  |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10269 | I | For the following tests, ensure the dashboard is running and record each result and save each file as .CSV |  | OK |    | Celiwe Sokhela - 491462 | Train |

|       |   |  |  |    |     |                         |       |
|-------|---|--|--|----|-----|-------------------------|-------|
| 10270 | I | Service Brake @ 60km/h TC1   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10271 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10272 | A | Put the train in starting position on the track  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10273 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10274 | A | Release [TT] SBK_BrakeDist   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10275 | A | Put the direction selector switch in FORWARD position  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10276 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10277 | A | Put the Master Controller in 100% BRAKE position   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10278 | R | Result Max [TT] SBK_BrakeDist : x <= 171   |  | OK | 136 | Celiwe Sokhela - 491462 | Train |
| 10279 | A | Put the direction selector switch in NEUTRAL position  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10280 | I | Service Brake @ 60km/h TC2   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10281 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10282 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10283 | A | Release [TT] SBK_BrakeDist   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10284 | A | Put the direction selector switch in FORWARD position  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10285 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10286 | A | Put the Master Controller in 100% BRAKE position   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10287 | R | Result Max [TT] SBK_BrakeDist : x <= 171   |  | OK | 142 | Celiwe Sokhela - 491462 | Train |




|       |   |  |  |    |     |                         |       |
|-------|---|--|--|----|-----|-------------------------|-------|
| 10288 | A | Put the direction selector switch in NEUTRAL position  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10289 | I | Emergency brake @ 60kh/h TC1   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10290 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10291 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10292 | A | Release [TT] SBK_BrakeDist   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10293 | A | Put the direction selector switch in FORWARD position  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10294 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10295 | A | Push the emergency brake mushroom button 44S1  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10296 | R | Result Max [TT] SBK_BrakeDist : x <= 121   |  | OK | 118 | Celiwe Sokhela - 491462 | Train |
| 10297 | A | Put the direction selector switch in NEUTRAL position  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10298 | A | Release the emergency brake button 44S1  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10299 | A | Put the train at the end of the line   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10300 | I | Remember to save the .csv result file on the local drive of the PC used                        |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10301 | I | Emergency brake @ 60km/h TC2   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10302 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10303 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10304 | A | Release [TT] SBK_BrakeDist   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10305 | A | Put the direction selector switch in FORWARD position  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10306 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Celiwe Sokhela - 491462 | Train |

|       |   |  |  |    |     |                         |       |
|-------|---|--|--|----|-----|-------------------------|-------|
| 10307 | A | Push the emergency brake mushroom button 44S1  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10308 | R | Result Max [TT] SBK_BrakeDist : x <= 121   |  | OK | 118 | Celiwe Sokhela - 491462 | Train |
| 10309 | A | Release the emergency brake button 44S1  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10310 | A | Put the direction selector switch in NEUTRAL position  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10311 | I | Remember to save the .csv result file on the local drive of the PC used                        |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10312 | I | Degraded mode @60 km/h TC1   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10313 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10314 | I | Degraded mode simulation   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10315 | A | Force [TT] (TBCU1)f55_b_br_auth = 0.0  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10316 | A | Force [TT] (TBCU2)f55_b_br_auth = 0.0  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10317 | A | Force [TT] (TBCU3)f55_b_br_auth = 0.0  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10318 | A | Force [TT] (TBCU4)f55_b_br_auth = 0.0  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10319 | A | Put the direction selector switch in FORWARD position  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10320 | R | Lamp 31H1 is "ON" on the alarm module  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10321 | R | TA appears on DDU screen   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10322 | A | Prepare the dashboard on Train Tracer to record the train performance                          |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10323 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10324 | A | Release [TT] SBK_BrakeDist   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10325 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10326 | A | Put the Master Controller in 100% BRAKE position   |  | OK |     | Celiwe Sokhela - 491462 | Train |

|       |   |  |  |    |     |                         |       |
|-------|---|--|--|----|-----|-------------------------|-------|
| 10327 | R | Result Max [TT] SBK_BrakeDist : x <= 171   |  | OK | 143 | Celiwe Sokhela - 491462 | Train |
| 10328 | A | Put the train at the end of the line   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10329 | I | Remember to save the .csv result file on the local drive of the PC used                        |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10330 | I | Degraded mode @ 60km/h TC2   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10331 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10332 | A | Put the direction selector switch in FORWARD position  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10333 | R | Lamp 31H1 is ON on the alarm module  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10334 | R | TA appears on DDU screen   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10335 | A | Prepare the dashboard on Train Tracer to record the train performance                          |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10336 | A | Force [TT] SBK_BrakeDist = 0.0   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10337 | A | Release [TT] SBK_BrakeDist   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10338 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10339 | A | Put the Master Controller in 100% BRAKE position   |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10340 | R | Result Max [TT] SBK_BrakeDist : x <= 171   |  | OK | 152 | Celiwe Sokhela - 491462 | Train |
| 10341 | A | Release [TT] (TBCU1)f55_b_br_auth  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10342 | A | Release [TT] (TBCU2)f55_b_br_auth  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10343 | A | Release [TT] (TBCU3)f55_b_br_auth  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10344 | A | Release [TT] (TBCU4)f55_b_br_auth  |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10345 | I | Remember to save the .csv result file on the local drive of the PC used                        |  | OK |     | Celiwe Sokhela - 491462 | Train |
| 10346 | A | Put the train at the end of the line   |  | OK |     | Celiwe Sokhela - 491462 | Train |

|       |   |   |  |    |    |                         |       |
|-------|---|---|--|----|----|-------------------------|-------|
| 10347 | I | Normal service brake operation  |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10348 | A | Active cab on TC1   |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10349 | A | Put the direction selector switch in FORWARD position   |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10350 | R | Lamp 31H1 is "ON" on the alarm module   |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10351 | R | TA appears on DDU screen  |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10352 | A | Put the Master controller in TRACTION position until the train speed reaches 10km/h             |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10353 | A | Put the Master controller in LOW BRAKE position until the train reaches a speed less than 3km/h |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10354 | R | Read Defined Variable [TT] (BCU1)LI_NOT_INHIB = 0.0   |  | OK | 0  | Celiwe Sokhela - 491462 | Train |
| 10355 | R | Read Defined Variable [TT] (BCU2)LI_NOT_INHIB = 0.0   |  | OK | 0  | Celiwe Sokhela - 491462 | Train |
| 10356 | R | Read Defined Variable [TT] (TBCU1)LI_NOT_INHIB = 0.0  |  | OK | 0  | Celiwe Sokhela - 491462 | Train |
| 10357 | R | Read Defined Variable [TT] (TBCU2)LI_NOT_INHIB = 0.0  |  | OK | 0  | Celiwe Sokhela - 491462 | Train |
| 10358 | R | Read Defined Variable [TT] (TBCU3)LI_NOT_INHIB = 0.0  |  | OK | 0  | Celiwe Sokhela - 491462 | Train |
| 10359 | R | Read Defined Variable [TT] (TBCU4)LI_NOT_INHIB = 0.0  |  | OK | 0  | Celiwe Sokhela - 491462 | Train |
| 10360 | A | Put the Master controller in OFF position   |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10361 | R | Observe that the train continues to brake until it comes to a complete stop                     |  | OK |    | Celiwe Sokhela - 491462 | Train |
| 10362 | R | Read Min [TT] (BCU1)AO_SERV_BRAKE : 1.2<= x   |  | OK | 14 | Celiwe Sokhela - 491462 | Train |
| 10363 | R | Read Min [TT] (BCU2)AO_SERV_BRAKE : 1.2<= x   |  | OK | 16 | Celiwe Sokhela - 491462 | Train |
| 10364 | R | Read Min [TT] (TBCU1)AO_SERV_BRAKE : 1.2<= x  |  | OK | 16 | Celiwe Sokhela - 491462 | Train |

|       |   |   |   |    |      |                                 |       |
|-------|---|---|---|----|------|---------------------------------|-------|
| 10365 | R | Read Min [TT]<br>(TBCU2)AO_SERV_BRAKE : 1.2<= x   |   | OK | 16   | Celiwe Sokhela -<br>491462      | Train |
| 10366 | R | Read Min [TT]<br>(TBCU3)AO_SERV_BRAKE : 1.2<= x   |   | OK | 16   | Celiwe Sokhela -<br>491462      | Train |
| 10367 | R | Read Min [TT]<br>(TBCU4)AO_SERV_BRAKE : 1.2<= x   |   | OK | 16   | Celiwe Sokhela -<br>491462      | Train |
| 10368 | A | Put the ERTMS switch 62S1 in<br>ISOLATION position in both TC cars  |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10369 | I | Brake Distances Results   |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10370 | A | Zip All the recorded CSV files of Braking<br>distances into one folder and upload on<br>teams "shifts reports" channel under a<br>specific train folder.<br><br>Rename the folder as:<br>TSXX_Braking_Distances |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10371 | I | Train Acceleration Results  |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10372 | A | Use the following spreadsheet to calculate<br>the acceleration  |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10373 | A |   |  | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10374 | A | On the recorded dashboard, check how<br>long it takes to reach 55km/h from<br>Rec_speed>0 using Trace CSV software.<br><br>Delta T (s)<br>Delta V (km/h)  |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10375 | R | TC1 Acceleration<br>Result Min : 0.85<= x (m/s <sup>2</sup> )   |   | OK | 0.88 | Celiwe Sokhela -<br>491462      | Train |
| 10376 | R | TC2 Acceleration<br>Result Min : 0.85<= x (m/s <sup>2</sup> )   |   | OK | 0.93 | Celiwe Sokhela -<br>491462      | Train |
| 10377 | I | 25km/h Speed limit in Reverse Direction   |   | OK |      | Thandanani Makhanya<br>- 463827 | Train |
| 10378 | A | Active Cab in TC1   |   | OK |      | Thandanani Makhanya<br>- 463827 | Train |
| 10379 | A | Select Driving Mode to EFFORT position  |   | OK |      | Thandanani Makhanya<br>- 463827 | Train |
| 10380 | A | Put the direction selector switch in<br>REVERSE position  |   | OK |      | Thandanani Makhanya<br>- 463827 | Train |
| 10381 | A | Put the Master controller in 100% Traction<br>position  |   | OK |      | Thandanani Makhanya<br>- 463827 | Train |

|       |   |   |  |    |  |                                 |       |
|-------|---|---|--|----|--|---------------------------------|-------|
| 10382 | R | The maximum train speed reached is 25km/h             |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10383 | A | Put the Master controller in OFF position             |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10384 | R | The train comes to a complete stop                    |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10385 | A | Put the direction selector switch in NEUTRAL position |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10386 | A | Remove active cab in TC1                              |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10387 | I | 25km/h Speed limit in Reverse Direction               |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10388 | A | Active Cab in TC2                                     |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10389 | A | Select Driving Mode to EFFORT position                |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10390 | A | Put the direction selector switch in REVERSE position |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10391 | A | Put the Master controller in 100% Traction position   |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10392 | R | The maximum train speed reached is 25km/h             |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10393 | A | Put the Master controller in OFF position             |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10394 | R | The train comes to a complete stop                    |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10395 | A | Put the direction selector switch in NEUTRAL position |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10396 | I | DEPOT mode speed limit TC1                            |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10397 | A | Put the driving mode switch in DEPOT position         |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10398 | A | Put the direction selector switch in FORWARD position |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10399 | A | Put the Master controller in 100% Traction position   |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10400 | R | The maximum train speed reached is 15km/h             |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10401 | A | Put the Master controller in OFF position             |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |

|       |   |  |  |    |  |                                 |       |
|-------|---|--|--|----|--|---------------------------------|-------|
| 10402 | R | The train comes to a complete stop   |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10403 | A | Put the direction selector switch in NEUTRAL position                                |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10404 | I | DEPOT mode speed limit TC2   |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10405 | A | Active cab on TC2  |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10406 | A | Put the driving mode switch in DEPOT position  |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10407 | A | Put the direction selector switch in FORWARD position                                |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10408 | A | Put the Master controller in 100% Traction position                                  |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10409 | R | The maximum train speed reached is 15km/h  |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10410 | A | Put the Master controller in OFF position  |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10411 | R | The train comes to a complete stop   |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10412 | A | Put the direction selector switch in NEUTRAL position                                |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10413 | A | Remove active cab on TC2   |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10414 | I | Doors  |  | OK |  | Celiwe Sokhela -<br>491462      | Train |
| 10415 | I | Test 04 - PEA activation and override within timeout [PRASA-40-Val-2]                |  | OK |  | Celiwe Sokhela -<br>491462      | Train |
| 10416 | A | Put the Master controller in TRACTION position and accelerate the train up to 10km/h |  | OK |  | Celiwe Sokhela -<br>491462      | Train |
| 10417 | A | Press Left and Right Door Authorization Buttons (50S6 and 50S5)                      |  | OK |  | Celiwe Sokhela -<br>491462      | Train |
| 10418 | R | When train is running above 5km/h it is not possible to get Door Authorization.      |  | OK |  | Celiwe Sokhela -<br>491462      | Train |
| 10419 | A | Pull any PEA on the train  |  | OK |  | Celiwe Sokhela -<br>491462      | Train |
| 10420 | A | Before 10s elapses with PEA pulled, press the button 44S5 to override the PEA        |  | OK |  | Celiwe Sokhela -<br>491462      | Train |


|       |   |  |  |    |  |                         |       |
|-------|---|--|--|----|--|-------------------------|-------|
| 10421 | R | TA lamp is ON  |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10422 | A | Apply brake until the complete stop of the Train.  |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10423 | A | Reset PEA using the switch 44S6  |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10424 | I | Test 06 - PEA activation with timeout respected [PRASA-40-Val-1]   |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10425 | A | Put the Master controller in TRACTION position and accelerate the train up to 10km/h                           |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10426 | A | Pull another PEA on the train  |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10427 | R | After 10s with PEA pulled, Emergency Brakes should be applied.   |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10428 | A | Put the Master controller in OFF position  |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10429 | A | Press the button 54S3 twice to acknowledge the PEA   |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10430 | A | Reset PEA using the switch 44S6  |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10431 | A | Release Emergency Brakes   |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10432 | I | Test 05 - PEA activation with Train speed lower than 5 km/h [PRASA-40-Val-4]                                   |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10433 | A | Put the Master controller in TRACTION position, pull any PEA on the train before the train speed reaches 5km/h |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10434 | R | An alarm appears on DDU screen warning that a PEA was pulled   |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10435 | R | TA lamp turns OFF  |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10436 | R | Emergency Brake is applied   |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10437 | A | Press the button 54S3 twice to acknowledge the PEA   |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10438 | A | Reset the PEA using switch 44S6  |  | OK |  | Celiwe Sokhela - 491462 | Train |
| 10439 | A | Open and close the doors on the side where the PEA was pulled  |  | OK |  | Celiwe Sokhela - 491462 | Train |



|       |   |  |  |    |   |                         |       |
|-------|---|--|--|----|---|-------------------------|-------|
| 10440 | R | All doors are closed on DDU screen   |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10441 | A | Put the Master controller in OFF position  |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10442 | A | Reset Emergency Brakes   |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10443 | I | Test 07 - PEA activation with reset PEA switch permanently active [PRASA-40-Val-3] |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10444 | A | Force [TT] (MPU1)lo_ubk_tc1resetpea = 1.0  |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10445 | A | Accelerate the train up to 10 km/h.  |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10446 | A | Pull any in TC1 car, but not till its final position                               |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10447 | I | The lamp 44H1 (Emergency Brake Interlock Open) turns ON.                           |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10448 | R | Read Defined Variable [TT] (MPU1)li_ubk_tc1pealoop = 1.0                           |  | OK | 1 | Celiwe Sokhela - 491462 | Train |
| 10449 | R | Read Defined Variable [TT] (MPU1)li_dor_tc1alldoorsclosedr1 = 0.0                  |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10450 | R | Read Defined Variable [TT] (MPU1)li_dor_tc1alldoorsclosedr2 = 0.0                  |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10451 | R | An alarm appears on DDU screen warning that a PEA was pulled.                      |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10452 | I | The lamp 31H1 (Traction Authorized) turns OFF.                                     |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10453 | R | Traction effort bar graph is indicating no effort on the line voltage module       |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10454 | R | Read Defined Variable [TT] (MPU1)lo_drc_tc1tractionloopr2 = 0.0                    |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10455 | R | Read Defined Variable [TT] (MPU1)lo_drc_tc1tractionloopr1 = 0.0                    |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10456 | A | After 10 seconds that PEA has been pulled check that:                              |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10457 | R | Read Defined Variable [TT] UBK_EmgcyBrkApld = 1.0                                  |  | OK | 1 | Celiwe Sokhela - 491462 | Train |


|       |   |  |  |    |   |                         |       |
|-------|---|--|--|----|---|-------------------------|-------|
| 10458 | I | The lamp 44H4 (Emergency Brake Loop) turns ON.   |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10459 | R | Read Defined Variable [TT] (MPU1)bcu1_tlnb = 0.0   |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10460 | A | Release [TT] (MPU1)lo_ubk_tc1resetpea  |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10461 | R | The lamp 51H1 turns OFF (door closed and locked).  |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10462 | A | Set Passenger Emergency Alarm Reset Switch (44S6) to "Reset" position.   |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10463 | R | PEA alarm signal is reset.   |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10464 | A | Move Master Controller Handle (30A1) to "OFF" position.  |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10465 | A | Reset the emergency brake setting the direction switch (S2.2) to "NEUTRAL" and then to "FORWARD" position again. |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10466 | R | Read Defined Variable [TT] UBK_EmgcyBrkApld = 0.0  |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10467 | I | The lamp 44H4 (Emergency Brake Loop) turns OFF.  |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10468 | R | Read Defined Variable [TT] (MPU1)bcu1_tlnb = 1.0   |  | OK | 1 | Celiwe Sokhela - 491462 | Train |
| 10469 | I | The lamp 31H1 (Traction Authorized) turns ON.  |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10470 | R | Read Defined Variable [TT] (MPU1)lo_drc_tc1tractionloopr1 = 1.0  |  | OK | 1 | Celiwe Sokhela - 491462 | Train |
| 10471 | R | Read Defined Variable [TT] (MPU1)lo_drc_tc1tractionloopr2 = 1.0  |  | OK | 1 | Celiwe Sokhela - 491462 | Train |
| 10472 | I | Test 08 - Safety Requirement [PRASA-34A-a]   |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10473 | I | On the beginning the Train shall be stationary.  |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10474 | A | Force [TT] (MPU1)lo_ets_tc2rstotdrr1 = 1.0   |  | OK |   | Celiwe Sokhela - 491462 | Train |


|       |   |   |  |    |   |                         |       |
|-------|---|---|--|----|---|-------------------------|-------|
| 10475 | A | Force [TT] (MPU1)lo_ets_tc2rstotdr2 = 1.0                       |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10476 | R | Check on DDU that the On-board Train Data Recorder is offline   |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10477 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive1 = 0.0 |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10478 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive2 = 0.0 |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10479 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive1 = 0.0 |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10480 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive2 = 0.0 |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10481 | R | Read Defined Variable [TT] (BCU2)LO_SPEED_THRSLD1 = 1.0         |  | OK | 1 | Celiwe Sokhela - 491462 | Train |
| 10482 | A | Accelerate the Train up to 4km/h.                               |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10483 | R | Read Defined Variable [TT] (BCU2)LO_SPEED_THRSLD1 = 0.0         |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10484 | A | Accelerate the Train up to 10km/h.                              |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10485 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive1 = 0.0 |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10486 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive2 = 0.0 |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10487 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive1 = 0.0 |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10488 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive2 = 0.0 |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10489 | R | Read Defined Variable [TT] (BCU2)LO_SPEED_THRSLD1 = 0.0         |  | OK | 0 | Celiwe Sokhela - 491462 | Train |
| 10490 | R | Read Defined Variable [TT] (MPU1)REC_Speed5ThresholdFail = 1.0  |  | OK | 1 | Celiwe Sokhela - 491462 | Train |
| 10491 | A | Apply brake until the complete stop of the Train.               |  | OK |   | Celiwe Sokhela - 491462 | Train |
| 10492 | R | Read Defined Variable [TT] (BCU2)LO_SPEED_THRSLD1 = 1.0         |  | OK | 1 | Celiwe Sokhela - 491462 | Train |

|       |   |   |   |    |      |                         |       |
|-------|---|---|---|----|------|-------------------------|-------|
| 10493 | R | The OTDR is maintained OFF.   |   | OK |      | Celiwe Sokhela - 491462 | Train |
| 10494 | A | Release [TT] (MPU1)lo_ets_tc2rstotdrr1  |   | OK |      | Celiwe Sokhela - 491462 | Train |
| 10495 | R | The OTDR is turned ON.  |   | OK |      | Celiwe Sokhela - 491462 | Train |
| 10496 | I | Test 09 - Safety Requirement [PRASA-23-Val-2]   |   | OK |      | Celiwe Sokhela - 491462 | Train |
| 10497 | I | On the beginning the Train shall be stationary.   |   | OK |      | Celiwe Sokhela - 491462 | Train |
| 10498 | A | Force [TT] (BCU2)LO_SPEED_THRSLD1 = 0.0   |   | OK |      | Celiwe Sokhela - 491462 | Train |
| 10499 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_HwIOStatus  |   | OK | 4660 | Celiwe Sokhela - 491462 | Train |
| 10500 | I | TrainTracer gives a numerical information through the variable "DCU1_TC1_HwIOStatus". In order to check the state of the bits 2 and 8, with the help of a programable calculator (use the computer's one), change the numerical information to a word information and read the state of these bits. |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10501 | R | DCU1_TC1_HwIOStatus.bit2 = 1  |   | OK |      | Celiwe Sokhela - 491462 | Train |
| 10502 | R | DCU1_TC1_HwIOStatus.bit8 = 0  |   | OK |      | Celiwe Sokhela - 491462 | Train |
| 10503 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive1 = 0.0   |   | OK | 0    | Celiwe Sokhela - 491462 | Train |
| 10504 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive2 = 0.0   |   | OK | 0    | Celiwe Sokhela - 491462 | Train |
| 10505 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive1 = 0.0   |   | OK | 0    | Celiwe Sokhela - 491462 | Train |
| 10506 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive2 = 0.0   |   | OK | 0    | Celiwe Sokhela - 491462 | Train |
| 10507 | A | Accelerate the Train up to 10km/h and check the variable "DCU1_TC1_HwIOStatus" as soon as the speed overpasses 5km/h (according to DDU's speed value).  |   | OK |      | Celiwe Sokhela - 491462 | Train |
| 10508 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_HwIOStatus  |   | OK | 4912 | Celiwe Sokhela - 491462 | Train |

|       |   |  |  |    |      |                         |       |
|-------|---|--|--|----|------|-------------------------|-------|
| 10509 | R | DCU1_TC1_HwIOStatus.bit2 = 0   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10510 | R | DCU1_TC1_HwIOStatus.bit8 = 1   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10511 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc1thresholdfive1 = 1.0   |  | OK | 1    | Celiwe Sokhela - 491462 | Train |
| 10512 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc1thresholdfive2 = 1.0   |  | OK | 1    | Celiwe Sokhela - 491462 | Train |
| 10513 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc2thresholdfive1 = 1.0   |  | OK | 1    | Celiwe Sokhela - 491462 | Train |
| 10514 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc2thresholdfive2 = 1.0   |  | OK | 1    | Celiwe Sokhela - 491462 | Train |
| 10515 | I | Test 10 - Safety Requirement [PRASA-23-Val-1]  |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10516 | R | Read Undefined Variable [TT]<br>(MPU1)DCU1_TC1_HwIOStatus  |  | OK | 4912 | Celiwe Sokhela - 491462 | Train |
| 10517 | R | DCU1_TC1_HwIOStatus.bit2 = 1   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10518 | R | DCU1_TC1_HwIOStatus.bit8 = 0   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10519 | A | Release [TT]<br>(BCU2)LO_SPEED_THRSLD1   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10520 | I | Test 11 - Safety Requirement [PRASA-23-Val-4]  |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10521 | I | In case it is not possible to go further at the same direction, change cab and perform the tests with the opposite cab active. |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10522 | A | Force [TT] (BCU1)LO_SPEED_THRSLD1 = 1.0  |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10523 | A | Force [TT] (BCU2)LO_SPEED_THRSLD1 = 1.0  |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10524 | R | Relay 61k3 permanently supplied in all cars.   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10525 | R | DCU1_TC1_HwIOStatus.bit2 = 1   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10526 | R | DCU1_TC1_HwIOStatus.bit8 = 0   |  | OK |      | Celiwe Sokhela - 491462 | Train |




|       |   |  |  |    |      |                         |       |
|-------|---|--|--|----|------|-------------------------|-------|
| 10527 | I | TrainTracer gives a numerical information through the variable "DCU1_TC1_DiagData1". In order to check the state of the bits 22 and 23, with the help of a programmable calculator (use the computer's one), change the numerical information to a Dword information and read the state of these bits. |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10528 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_DiagData1  |  | OK | 0    | Celiwe Sokhela - 491462 | Train |
| 10529 | R | DCU1_TC1_DiagData1.bit22 = 0   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10530 | R | DCU1_TC1_DiagData1.bit23 = 0   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10531 | A | Accelerate the Train up to 10km/h and check the status of the variables "DCU1_TC1_HwIOStatus" and "DCU1_TC1_DiagData1" when the speed overpasses 5km/h (according to DDU's speed value).   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10532 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_HwIOStatus   |  | OK | 4660 | Celiwe Sokhela - 491462 | Train |
| 10533 | R | DCU1_TC1_HwIOStatus.bit2 = 1   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10534 | R | DCU1_TC1_HwIOStatus.bit8 = 1   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10535 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_DiagData1  |  | OK | 0    | Celiwe Sokhela - 491462 | Train |
| 10536 | R | DCU1_TC1_DiagData1.bit22 = 1   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10537 | R | DCU1_TC1_DiagData1.bit23 = 0   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10538 | A | Force [TT] (MPU1)OTDR_5kphSpeedFlt = 1.0   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10539 | R | Check on DDU screen the appearance of an IOS (838) requiring a reparation at the end of the day.   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10540 | A | Release [TT] (MPU1)OTDR_5kphSpeedFlt   |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10541 | A | Release [TT] (BCU1)LO_SPEED_THRSLD1  |  | OK |      | Celiwe Sokhela - 491462 | Train |
| 10542 | A | Release [TT] (BCU2)LO_SPEED_THRSLD1  |  | OK |      | Celiwe Sokhela - 491462 | Train |



|       |   |  |   |    |        |                         |       |
|-------|---|--|---|----|--------|-------------------------|-------|
| 10543 | A | Brake the train until its complete stop.   |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10544 | I | Test 12 - Safety Requirement [PRASA-23-Val-5]  |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10545 | A | For the following test use OTDR web portal to force the speed of above 5km/h                     |  | OK |        | Celiwe Sokhela - 491462 | Train |
| 10546 | R | Relays 61k1 permanently supplied in all cars plus relays 61k2 in TC1 and TC2 cars.               |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10547 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_HwIOStatus   |   | OK | 4912   | Celiwe Sokhela - 491462 | Train |
| 10548 | R | DCU1_TC1_HwIOStatus.bit2 = 1   |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10549 | R | DCU1_TC1_HwIOStatus.bit8 = 1   |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10550 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive1 = 1.0                                  |   | OK | 1      | Celiwe Sokhela - 491462 | Train |
| 10551 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive1 = 1.0                                  |   | OK | 1      | Celiwe Sokhela - 491462 | Train |
| 10552 | R | Check on DDU screen the appearance of an IOS (839) requiring a reparation at the end of the day. |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10553 | R | Read Defined Variable [TT] (MPU1)DOR_FDcuSpeedThr = 1.0  |   | OK | 1      | Celiwe Sokhela - 491462 | Train |
| 10554 | A | Accelerate the Train up to 10km/h.   |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10555 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_HwIOStatus   |   | OK | 135984 | Celiwe Sokhela - 491462 | Train |
| 10556 | R | DCU1_TC1_HwIOStatus.bit2 = 0   |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10557 | R | DCU1_TC1_HwIOStatus.bit8 = 1   |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10558 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_DiagData1  |   | OK | 0      | Celiwe Sokhela - 491462 | Train |
| 10559 | R | DCU1_TC1_DiagData1.bit22 = 0   |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10560 | R | DCU1_TC1_DiagData1.bit23 = 0   |   | OK |        | Celiwe Sokhela - 491462 | Train |
| 10561 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive1 = 1.0                                  |   | OK | 1      | Celiwe Sokhela - 491462 | Train |


|       |   |  |   |    |      |                                 |       |
|-------|---|--|---|----|------|---------------------------------|-------|
| 10562 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc2thresholdfive1 = 1.0   |   | OK | 1    | Celiwe Sokhela -<br>491462      | Train |
| 10563 | A | Decelerate the Train untill comes to a complete stop and check the status of the variables "DCU1_TC1_HwIOStatus" and "DCU1_TC1_DiagData1" as soon as the speed is below 5km/h. |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10564 | R | Read Undefined Variable [TT]<br>(MPU1)DCU1_TC1_HwIOStatus  |   | OK | 4660 | Celiwe Sokhela -<br>491462      | Train |
| 10565 | R | DCU1_TC1_HwIOStatus.bit2 = 0, if 5km/h > train speed > 3km/h.  |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10566 | R | DCU1_TC1_HwIOStatus.bit2 = 1, if train speed < 3km/h.  |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10567 | R | DCU1_TC1_HwIOStatus.bit8 = 1   |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10568 | R | Read Undefined Variable [TT]<br>(MPU1)DCU1_TC1_DiagData1   |   | OK | 0    | Celiwe Sokhela -<br>491462      | Train |
| 10569 | R | DCU1_TC1_DiagData1.bit22 = 0   |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10570 | R | DCU1_TC1_DiagData1.bit23 = 1   |   | OK |      | Celiwe Sokhela -<br>491462      | Train |
| 10571 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc1thresholdfive1 = 0.0   |   | OK | 0    | Celiwe Sokhela -<br>491462      | Train |
| 10572 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc2thresholdfive1 = 0.0   |   | OK | 0    | Celiwe Sokhela -<br>491462      | Train |
| 10573 | R | Read Defined Variable [TT]<br>(MPU1)DOR_FDcuSpeedThr = 0.0   |   | OK | 0    | Celiwe Sokhela -<br>491462      | Train |
| 10574 | I | Rescue Mode and Emergency Disconnection  |   | OK |      | Thandanani Makhanya -<br>463827 | Train |
| 10575 | I | BACKUP MODE  |   | OK |      | Thandanani Makhanya -<br>463827 | Train |
| 10576 | A | Active cab in TC1  |   | OK |      | Thandanani Makhanya -<br>463827 | Train |
| 10577 | A | Put the backup mode switch 27S1 in Backup position   |   | OK |      | Thandanani Makhanya -<br>463827 | Train |
| 10578 | A | Put the Driving Direction Switch to FORWARD position   |   | OK |      | Thandanani Makhanya -<br>463827 | Train |
| 10579 | A | Hold pressed the "Master's Deadman Device (30A1.S4)" and move "Master Controller handle (30A1)" to initial   |  | OK |      | Thandanani Makhanya -<br>463827 | Train |



|       |   |  |   |    |  |                                 |       |
|-------|---|--|---|----|--|---------------------------------|-------|
|       |   | "Traction" zone position.  |   |    |  |                                 |       |
| 10580 | I | Low tractive effort demand is requested.   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10581 | R | Although the low tractive effort demand has been requested, the Train moves with a standard tractive demand  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10582 | A | Move "Master Controller (30A1)" handle to extreme "Traction" zone position   |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10583 | R | Verify that there wasn't an impact on train movement and the tractive demand was maintained  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10584 | A | Release the Master's Deadman Device (30A1.S4) for more than 5 seconds  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10585 | R | Train applies emergency brake  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10586 | I | The Deadman device must remain pressed to allow traction in backup mode, otherwise the emergency brake loop is opened when the timer relay expire. |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10587 | A | Set the master controller to "OFF" position.   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10588 | A | Set the Driving Direction Switch to NEUTRAL and then to FORWARD position again   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10589 | R | Emergency brake released on Train.   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10590 | I | From now on, when operating the master controller don't forget to maintain anyone of the deadman devices pressed.                                  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10591 | A | Move "Master Controller (30A1)" handle to "Traction" zone position.  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10592 | R | Train starts to move.  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10593 | A | Keeping the Master's handle within traction zone, check that the train is capable to reach 25km/h.   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10594 | R | Verify that train reaches, but does not exceed the speed of 25km/h.  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |

|       |   |  |   |    |  |                              |       |
|-------|---|--|---|----|--|------------------------------|-------|
| 10595 | I | On Backup mode, train speed is limited to 25km/h.  |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10596 | A | Move "Master Controller (30A1)" handle to initial "Brake" zone position.   |    | OK |  | Thandanani Makhanya - 463827 | Train |
| 10597 | I | Low brake effort demand is requested.  |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10598 | R | Verify that the train starts to brake with a standard brake effort.  |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10599 | A | Move "Master Controller (30A1)" handle to extreme "Brake" zone position (stop before achieving "Emergency Brake" position).          |    | OK |  | Thandanani Makhanya - 463827 | Train |
| 10600 | I | High brake effort demand is requested.   |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10601 | R | Verify that there wasn't an impact on train movement, and the brake demand was maintained.   |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10602 | I | On Backup Mode, brake system considers a single brake demand and disregards master controller handle position within brake zone.     |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10603 | R | Train stops.   |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10604 | I | BACKUP MODE TC2  |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10605 | A | Active cab in TC2  |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10606 | A | Press the automatic start button 20S1 to prepare the train in high voltage   |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10607 | R | After few seconds, the train is prepared in high voltage with HSCBs closed   |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10608 | A | Put the backup mode switch 27S1 in Backup position   |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10609 | A | Put the Driving Direction Switch to FORWARD position   |   | OK |  | Thandanani Makhanya - 463827 | Train |
| 10610 | A | Hold pressed the "Master's Deadman Device (30A1.S4)" and move "Master Controller handle (30A1)" to initial "Traction" zone position. |  | OK |  | Thandanani Makhanya - 463827 | Train |
| 10611 | I | Low tractive effort demand is requested.   |   | OK |  | Thandanani Makhanya - 463827 | Train |

|       |   |  |   |    |  |                                 |       |
|-------|---|--|---|----|--|---------------------------------|-------|
| 10612 | R | Although the low tractive effort demand has been requested, the Train moves with a standard tractive demand  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10613 | A | Move "Master Controller (30A1)" handle to extreme "Traction" zone position   |    | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10614 | R | Verify that there wasn't an impact on train movement and the tractive demand was maintained  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10615 | A | Release the Master's Deadman Device (30A1.S4) for more than 5 seconds  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10616 | R | Train applies emergency brake  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10617 | I | The Deadman device must remain pressed to allow traction in backup mode, otherwise the emergency brake loop is opened when the timer relay expire. |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10618 | A | Set the master controller to "OFF" position.   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10619 | A | Set the Driving Direction Switch to NEUTRAL and then to FORWARD position again   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10620 | R | Emergency brake released on Train.   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10621 | I | From now on, when operating the master controller don't forget to maintain anyone of the deadman devices pressed.                                  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10622 | A | Move "Master Controller (30A1)" handle to "Traction" zone position.  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10623 | R | Train starts to move.  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10624 | A | Keeping the Master's handle within traction zone, check that the train is capable to reach 25km/h.   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10625 | R | Verify that train reaches, but does not exceed the speed of 25km/h.  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10626 | I | On Backup mode, train speed is limited to 25km/h.  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10627 | A | Move "Master Controller (30A1)" handle to initial "Brake" zone position.   |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |

|       |   |  |   |    |  |                                 |       |
|-------|---|--|---|----|--|---------------------------------|-------|
| 10628 | I | Low brake effort demand is requested.  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10629 | R | Verify that the train starts to brake with a standard brake effort.  |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10630 | A | Move "Master Controller (30A1)" handle to extreme "Brake" zone position (stop before achieving "Emergency Brake" position).      |  | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10631 | I | High brake effort demand is requested.   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10632 | R | Verify that there wasn't an impact on train movement, and the brake demand was maintained.                                       |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10633 | I | On Backup Mode, brake system considers a single brake demand and disregards master controller handle position within brake zone. |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10634 | R | Train stops.   |   | OK |  | Thandanani Makhanya<br>- 463827 | Train |
| 10635 | I | End of Test  |   | OK |  | Celiwe Sokhela -<br>491462      | Train |



|   |  |                             |
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| Serial Tests Report<br>TS213 – TFD<br>RTR Train Functional Static Test Report | Document Reference<br>GIB0000006276<br>Version: A0 | Emission date<br>21/03/2024 |
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|---|--|-----------------------------|
| Serial Tests Report<br>TS213 – TFD<br>RTR Train Functional Static Test Report | Document Reference<br>GIB0000006276<br>Version: A0 | Emission date<br>21/03/2024 |
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## Section 2 – Report summaries

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### 2.2 Results status

| Test Instruction Sheet | Compliant | Incomplete | Non-compliant |
|------------------------|-----------|------------|---------------|
| Dynamic                | X         |            |               |

| Vehicle | Equipment | Expected version | Version loaded |
|---------|-----------|------------------|----------------|
| Train   |           |                  |                |