

| PROJECT | CUSTOMER | VEHICLE |
|-----------------|----------|----------------|
| Xtrapolis-PRASA | PRASA | 226 – M4 – VPT |

RTR Vehicle Pre-Testing TS226 M4 Report
GIB0000006539




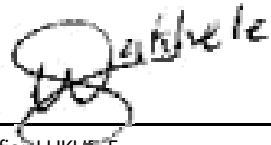

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| Name | Tshegofatso SETSHOGWE | Sifiso LUKHELE | Kgomotso NKOANA | Confidentiality Category <i>Restricted</i> <i>Project</i> <i>Normal</i> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> |
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| Rev | Date | Modifications Content | Writer |
|-----|------------|-----------------------|-----------------------|
| A0 | 06/06/2024 | Creation | Tshegofatso SETSHOGWE |

Internal validations

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|-----------------|-----------------------|---------------------|------------|---|
| Creator | Tshegofatso SETSHOGWE | EPU Manager | 06/06/2024 | X  |
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| | | | | Sifiso LUKHELE Serial Test Manager |
| Approver | Kgomotso NKOANA | Test Expert | 06/06/2024 | X  |
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Execution Plan

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Serial Tests Report
TS226 – M4 – VPT
RTR Vehicle Pre-Testing Report

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Section 1 – Purpose / Objectives



| | | |
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| Serial Tests Report TS226 – M4 – VPT RTR Vehicle Pre-Testing Report | Document Reference GIB0000006539 Version: A0 | Emission date 06/06/2024 |
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Section 2 – Protective Bonding and Return Current

2.3 Instructions list

2.3.1 012_PB-Protective Bonding and Return Current

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

| N° | Type | Instruction | File | Result status | Result value | Operator | Vehicle |
|-------|------|---|---|---------------|--------------|-------------------------|---------|
| 10001 | I | Return Circuit: Car Body to Ground | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10002 | I | The purpose of this test is to confirm that the car body of each car in the train is connected to ground via the earthing brush which will ensure that current from the overhead wire is returned to the substation without damage to equipment or risk of electric shock | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10003 | A | Use the Tool List to record the serial number of the Ohmmeter that will be used in this test | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10004 | A | Ensure that the current setpoint is 50A and voltage <50V (applicable for all impedance measurement) on the ohmmeter device to be used for the test. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10005 | I | For all impedance measurements of the car body to ground the positive terminal shall be connected to the car body and the negative terminal to the rail | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10006 | I | For all other impedance measurements, the positive terminal shall be connected to the tested subject and the negative terminal to the car body shell. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10007 | A | Visually identify and inspect that the earthing cables of the 1st and 2nd axle of the 1st and 2nd Bogie Frame are properly connected to the axle brushes |  | OK | | Nqobile Chirwa - 484648 | M4 |
| 10008 | A | Disconnect from the axle box the earthing cable of the 1st and 2nd axle of the 1st and 2nd Bogie Frame of the M4 car | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10009 | R | All the earthing cables of the M4 car are disconnected | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10010 | A | Connect the earthing cable of the 1st axle in the 1st Bogie Frame | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10011 | R | Only the earthing cable of the 1st axle of the 1st Bogie Frame is connected | | OK | | Nqobile Chirwa - 484648 | M4 |

| | | | | | | | |
|-------|---|---|--|----|----------|-------------------------|----|
| 10012 | A | Using an ohmmeter measure the impedance between the car body to rail | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10013 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 5.81E-07 | Nqobile Chirwa - 484648 | M4 |
| 10014 | A | Disconnect the earthing cable of the 1st axle of the 1st bogie frame | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10015 | R | Earthing cable disconnected | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10016 | A | Connect the earthing cable of the 2nd axle in the 1st Bogie Frame | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10017 | R | Only the earthing cable of the 2nd axle of the 1st Bogie Frame is connected | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10018 | A | Using an ohmmeter measure the impedance between the car body to rail | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10019 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 5.85E-07 | Nqobile Chirwa - 484648 | M4 |
| 10020 | R | Earthing cable disconnected | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10021 | A | Disconnect the earthing cable of the 2nd axle of the 1st bogie frame | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10022 | I | Earthing of Equipment on the Underframe | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10023 | A | Connect the earthing cable of the 1st axle in the 2nd Bogie Frame | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10024 | R | Only the earthing cable of the 1st axle of the 2nd Bogie Frame is connected | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10025 | A | Using an ohmmeter measure the impedance between the car body to rail | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10026 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 7.32E-07 | Nqobile Chirwa - 484648 | M4 |
| 10027 | A | Disconnect the earthing cable of the 1st axle of the 2nd bogie frame | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10028 | R | Earthing cable disconnected | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10029 | A | Connect the earthing cable of the 2nd axle in the 2nd Bogie Frame | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10030 | R | Only the earthing cable of the 1st axle of the 2nd Bogie Frame is connected | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10031 | A | Using an ohmmeter measure the impedance between the car body to rail | | OK | | Nqobile Chirwa - 484648 | M4 |

| | | | | | | | |
|-------|---|---|--|----|----------|----------------------------|----|
| 10032 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 4.23E-07 | Nqobile Chirwa - 484648 | M4 |
| 10033 | A | Reconnect all earthing cables of the 1st and 2nd axle of the 1st and 2nd Bogie Frame | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10034 | R | All earthing cables connected on the 1st and 2nd Bogie Frame | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10035 | A | Visually inspect that the earthing cable connecting the Traction Inverter Case to M4 car body is properly connected and related bolts are correctly torqued | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10036 | R | Traction Inverter Case visually grounded and torque is correctly marked | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10037 | A | Using an ohmmeter measure the impedance between the Traction Inverter Case and the car body | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10038 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 3.74E-07 | Nqobile Chirwa - 484648 | M4 |
| 10039 | A | Visually inspect that the earthing cable connecting the Line Inductor Case to M4 car body is properly connected and related bolts are correctly torqued. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10040 | R | Line Inductor Case visually grounded and torque is correctly marked | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10041 | A | Using an ohmmeter measure the impedance between the Line Inductor Case and the car body | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10042 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 5.27E-07 | Nqobile Chirwa - 484648 | M4 |
| 10043 | A | Visually inspect that the earthing cable connecting the Traction Motors of the 1st and 2nd axle of the 1st Bogie Frame to the car body is properly connected and related bolts are correctly torqued. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10044 | R | Traction Motors visually grounded and torque is correctly marked | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10045 | A | Using an ohmmeter measure the impedance between the Traction Motor of the 1st and 2nd axle of the 1st Bogie Frame and the car body | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10046 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 8.56E-07 | Nqobile Chirwa - 484648 | M4 |
| 10047 | A | Visually inspect that the earthing cable connecting the Traction Motors of the 1st and 2nd axle of the 2nd Bogie Frame to | | OK | | Nqobile Chirwa - 484648 | M4 |

| | | | | | | | |
|-------|---|---|--|----|----------|-------------------------|----|
| | | the car body is properly connected and related bolts are correctly torqued. | | | | | |
| 10048 | R | Traction Motors visually grounded and torque is correctly marked | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10049 | A | Using an ohmmeter measure the impedance between the Traction Motor of the 1st and 2nd axle of the 2nd Bogie Frame and the car body | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10050 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 8.38E-07 | Nqobile Chirwa - 484648 | M4 |
| 10051 | I | Earthing of Interior Equipment | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10052 | A | Visually inspect that the earthing cable connecting the LV3 cubicle, and the car body is properly connected and related bolts are correctly torqued | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10053 | R | LV3 cubicle visually grounded and torque is correctly marked | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10054 | A | Using an ohmmeter measure the impedance between the LV3 cubicle and the car body | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10055 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 8.49E-07 | Nqobile Chirwa - 484648 | M4 |
| 10056 | A | Visually inspect that the earthing cable connecting the LV6 cubicle, and the car body is properly connected and related bolts are correctly torqued | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10057 | R | LV6 cubicle visually grounded and torque is correctly marked | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10058 | A | Using an ohmmeter measure the impedance between the LV6 cubicle and the car body | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10059 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 6.32E-07 | Nqobile Chirwa - 484648 | M4 |
| 10060 | I | Earthing of Equipment on the Roof | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10061 | A | Visually inspect that the earthing cable connecting the 1st Braking Resistor Box to M4 car body is properly connected and related bolts are correctly torqued | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10062 | R | 1st Braking Resistor Box visually grounded and torque is correctly marked | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10063 | A | Using an ohmmeter measure the impedance between the 1st Braking | | OK | | Nqobile Chirwa - 484648 | M4 |

| | | | | | | | |
|-------|---|---|--|----|----------|----------------------------|----|
| | | Resistor Box and the car body | | | | | |
| 10064 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 7.58E-07 | Nqobile Chirwa - 484648 | M4 |
| 10065 | A | Visually inspect that the earthing cable connecting the Saloon HVAC to M4 car body is properly connected and related bolts are correctly torqued | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10066 | R | Saloon HVAC visually grounded and torque is correctly marked | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10067 | A | Using an ohmmeter measure the impedance between the Saloon HVAC and the car body | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10068 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 7.56E-07 | Nqobile Chirwa - 484648 | M4 |
| 10069 | A | Visually inspect that the earthing cable connecting the 2nd Braking Resistor Box to M4 car body is properly connected and related bolts are correctly torqued | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10070 | R | 2nd Braking Resistor Box visually grounded and torque is correctly marked | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10071 | A | Using an ohmmeter measure the impedance between the 1st Braking Resistor Box and the car body | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10072 | R | Impedance Result Max : $x \leq 0.05$ (Ohm) | | OK | 9.65E-07 | Nqobile Chirwa - 484648 | M4 |



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| Serial Tests Report TS226 – M4 – VPT RTR Vehicle Pre-Testing Report | Document Reference GIB0000006539 Version: A0 | Emission date 06/06/2024 |
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Section 3 – Reflectometry

3.3 Instructions list

3.3.1 025_NET_054_PIS-Network Cabling Integrity

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

| N° | Type | Instruction | File | Result status | Result value | Operator | Vehicle |
|-------|------|---|---|---------------|--------------|-------------------------|---------|
| 10001 | I | Network Cabling Integrity Test | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10002 | I | It is necessary to check the network cables to ensure that they have been installed correctly to improve the overall operation of the system. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10003 | I | The Cable Analyzer Module DSX-5000 will be used to validate cabling | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10004 | I | Register as a new Operator on the DSX-5000. Check on the manual below on how to register as a new Operator |  | OK | | Nqobile Chirwa - 484648 | M4 |
| 10005 | I | When saving the tests results for each line, it should be named by its trainset number (X) and the test code (Indicated in the test step). i.e. TS021_P01 for PACIS and TS021_T01 for TCMS. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10006 | I | TCMS cabling | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10007 | A | From: [25A10 CRS1 (Local: +LV3; Connector: 25XP10_X3)] to: [25A11 CRS2 (Local: +LV3; Connector: 25XP11_X4)] NOTE: Cable is crossed TSX_M4_T01 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10008 | A | From: [25A10 CRS1 (Local: +LV3; Connector: 25XP10_X4)] to: [(Local: +END1; Connector: 90XP12.All)] NOTE: Cable is straight TSX_M4_T02 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10009 | A | From: [25A14 TBR (Local: +LV3; Connector: 25XP14_ETH0)] to: [(Local: | | OK | | Nqobile Chirwa - 484648 | M4 |

| | | | | | | | |
|-------|---|---|--|----|--|----------------------------|----|
| | | +END1; Connector: 90XR11.All]) NOTE: Cable is crossed TSX_M4_T03 | | | | | |
| 10010 | A | From: [25A11 CRS2 (Local: +LV3; Connector: 25XP11_X3)] to: [Inter-car (Local: +END2; Connector: 90XP22.al)] NOTE: Cable is crossed TSX_M4_T04 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10011 | A | From: [25A14 TBR (Local: +LV3; Connector: 25XP14_ETH1)] to: [Inter-car (Local: +END2; Connector: 90XP22.al)] NOTE: Cable is straight TSX_M4_T05 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10012 | A | From: [(Local: +END1; Connector: 90XR12.Al)] to: [Inter-car (Local: +END2; Connector: 90XP21.al)] NOTE: Cable is straight TSX_M4_T06 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10013 | A | From: [(Local: +END1; Connector: 90XR11.Al)] to: [Inter-car (Local: +END2; Connector: 90XP21.al)] NOTE: Cable is straight TSX_M4_T07 | | OK | | Amanda Ntuli - 526239 | M4 |
| 10014 | I | Pacis cabling | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10015 | A | From: [(Local: +END1; Connector: - 90XR11.El)] to: [Inter-car (Local: +END2; Connector: -90XP21.el)] NOTE: Cable is straight TSX_M4_P01 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10016 | A | From: [54A10 SWITCH ETHERNET (CRS1) (Local: +LV6; Connector: 54XP10_X7)] to: [(Local: +END1; Connector: -90XR12.El)] NOTE: Cable is crossed TSX_M4_P02 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10017 | A | From: [54A11 SWITCH ETHERNET (CRS2) (Local: +LV6; Connector: 54XP11_X8)] to: [(Local: +END2; Connector: -90XP22.el)] NOTE: Cable is straight TSX_M4_P03 | | OK | | Nqobile Chirwa - 484648 | M4 |

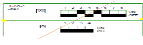

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|-------|---|---|--|----|--|-----------------------------------|----|
| 10018 | A | From: [54A11 SWITCH ETHERNET (CRS2) (Local: +LV6; Connector: 54XP11_X7)] to: [54A10 SWITCH ETHERNET (CRS1) (Local: +LV6; Connector: 54XP10_X8)] NOTE: Cable is crossed TSX_M4_P04 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10019 | A | All cables have been validated on M4 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10020 | R | Download all the results from Fluke and save them on PC with folder name "M4_TSxx" | | OK | | Tshegofatso Setshogwe - 404572 | M4 |
| 10021 | R | | | OK | | Nqobile Chirwa - 484648 | M4 |

Section 4 – Config

4.3 Instructions list

4.3.1 CONFIG-Vehicle Configuration

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

| N° | Type | Instruction | File | Result status | Result value | Operator | Vehicle |
|-------|------|---|---|---------------|--------------|--------------------------|---------|
| 10001 | I | Configuration Checks | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10002 | A | Check continuity on all pins of End 1 connector 90XP15 & 90XP14 to ground | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10003 | R | There is no continuity | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10004 | A | Check continuity on all pins of End 2 connector 90XP15 & 90XP14 to ground | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10005 | R | There is no continuity | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10006 | I | Fire Detection_67 | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10007 | I | Smoke Detector Address Configuration | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10008 | A | Remove and configure the Smoke Detector 67A2 (+PA1) according to the figure below |  | OK | | Anthonia Mabowa - 494131 | M4 |
| 10009 | A | Reconnect Smoke Detector 67A2 | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10010 | A | Remove and configure the Smoke Detector 67A3 (+PA3) according to the figure below |  | OK | | Anthonia Mabowa - 494131 | M4 |
| 10011 | I | Line Heat Detection | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10012 | R | Measure the resistance between point 1 and point 4 of the connector 67XP3_11 Result Min/Max : 550<= x<= 700 (Ohms) | | OK | 585 | Anthonia Mabowa - 494131 | M4 |
| 10013 | A | Reconnect Smoke Detector 67A3 | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10014 | I | OTDR LOOP | | OK | | Anthonia Mabowa - 494131 | M4 |

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|-------|---|---|--|----|--|--------------------------|----|
| 10015 | I | Check the continuity between the following points: | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10016 | A | From: [+IV1 (local: +END1 Connector - 90XR13.B (pin1))] to: [local: +END2 Connector - 90XP23.b(pin1)] | | OK | | Anthonia Mabowa - 494131 | M4 |
| 10017 | A | From: [-IV1 (local: +END1 Connector - 90XR13.B (pin2))] to: [local: +END2 Connector - 90XP23.b (pin2)] | | OK | | Anthonia Mabowa - 494131 | M4 |

Section 5 – Traction Motors

5.3 Instructions list

5.3.1 011_TRM-Traction Motors

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

| N° | Type | Instruction | File | Result status | Result value | Operator | Vehicle |
|-------|------|---|---|---------------|--------------|-------------------------|---------|
| 10001 | I | Traction Motors (SPP = 11) | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10002 | I | Ensure all the CONNECTORS are fully ASSEMBLED before running a continuity test. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10003 | I | The following test is used to confirm the wiring of the traction motors. |  | OK | | Nqobile Chirwa - 484648 | M4 |
| 10004 | I | SAFETY NOTICE: It is important to ensure that there is no 400Vac power supply on the vehicle. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10005 | A | Switch OFF the 400Vac power supply at the source and disconnect the supply cables from the vehicle | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10006 | R | There is no 400Vac available on the vehicle | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10007 | I | Bogie 1 (MB1) | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10008 | I | Visual Inspection | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10009 | A | For motor 1 and motor 2 connect 11XR1 and 11XR2 and visually inspect that the following cables are connected from - 11XR1 connector to -11M1 motor and - 11XR2 connector to -11M2 motor respectively. NOTE: the cable configuration should be straight, none should cross the other | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10010 | I | Motor 2 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10011 | R | [-11XR2 connector (local: UND - 11XP2_2.X1 pin 1)] connected to: [- 11XT2 motor terminals (U) -11M2]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10012 | A | Cable 11X2_2.X1 pin 1 is connected to 11XT2. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10013 | R | [-11XR2 connector (local: UND - 11XP2_2.X2 pin 1)] connected to: [- 11XT2 motor terminals (V) -11M2]. | | OK | | Nqobile Chirwa - 484648 | M4 |

| | | | | | | | |
|-------|---|---|--|----|--|-------------------------|----|
| 10014 | R | [-11XR2 connector (local: UND - 11XP2_2.X3 pin 1)] connected to: [- 11XT2 motor terminals (W) -11M2]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10015 | R | -11M2 Motor terminals PE connected to - 11GND2. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10016 | I | Motor 1 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10017 | R | [-11XR1 connector (local: UND - 11XP1_2.X1 pin 1)] connected to: [- 11XT1 motor terminals (U) -11M1]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10018 | R | [-11XR1 connector (local: UND - 11XP1_2.X2 pin 1)] connected to: [- 11XT1 motor terminals (V) -11M1]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10019 | R | [-11XR1 connector (local: UND - 11XP1_2.X3 pin 1)] connected to: [- 11XT1 motor terminals (W) -11M1]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10020 | R | -11M1 Motor terminals PE connected to - 11GND. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10021 | I | Bogie 2 (MB2) | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10022 | I | Visual Inspection | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10023 | A | For motor 3 and motor 4 visually inspect that the following cables are connected from -11XR3 connector to -11M3 motor and -11XR4 connector to -11M4 motor respectively. NOTE: the cable configuration should be straight, none should cross the other | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10024 | I | Motor 3 | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10025 | R | [-11XR3 connector (local: UND - 11XP3_2.X1 pin 1)] connected to: [- 11XT3 motor terminals (U) -11M3]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10026 | R | [-11XR3 connector (local: UND - 11XP3_2.X2 pin 1)] connected to: [- 11XT3 motor terminals (V) -11M3]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10027 | R | [-11XR3 connector (local: UND - 11XP3_2.X3 pin 1)] connected to: [- 11XT3 motor terminals (W) -11M3]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10028 | R | -11M3 Motor terminals PE connected to - 11GND3. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10029 | I | Motor 4 | | OK | | Nqobile Chirwa - 484648 | M4 |

| | | | | | | | |
|-------|---|---|--|----|--|-------------------------|----|
| 10030 | R | [-11XR4 connector (local: UND - 11XP4_2.X1 pin 1)] connected to: [- 11XT4 motor terminals (U) -11M4]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10031 | R | [-11XR4 connector (local: UND - 11XP4_2.X2 pin 1)] connected to: [- 11XT4 motor terminals (V) -11M4]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10032 | R | [-11XR4 connector (local: UND - 11XP4_2.X3 pin 1)] connected to: [- 11XT4 motor terminals (W) -11M4]. | | OK | | Nqobile Chirwa - 484648 | M4 |
| 10033 | R | -11M4 Motor terminals PE connected to - 11GND. | | OK | | Nqobile Chirwa - 484648 | M4 |



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|---|--|-----------------------------|
| Serial Tests Report TS226 – M4 – VPT RTR Vehicle Pre-Testing Report | Document Reference GIB0000006539 Version: A0 | Emission date 06/06/2024 |
|---|--|-----------------------------|

Section 6 – Report summaries

6.2 Results status

| Test Instruction Sheet | Compliant | Incomplete | Non-compliant |
|---------------------------------------|-----------|------------|---------------|
| Traction Motors | X | | |
| Reflectometry | X | | |
| Protective Bonding and Return Current | X | | |
| Config | X | | |

6.3 Tools used

| Function | Tool name | Tool number | Next Calibration date |
|-----------------|------------------------|----------------------|-----------------------|
| 012_PB | Megger | Megger | 8/25/2025 |
| 025_NET_054_PIS | Cable Analyser DSX5000 | Fluke machine_Ubunye | 6/23/2024 |
| CONFIG | Multimeter | Multimeter 4 | 8/23/2024 |

| Vehicle | Equipment | Expected version | Version loaded |
|---------|-----------|------------------|----------------|
| M4 | | | |