

BACnet Testing Laboratories Test Report

Conformance of the tested functionality of BACnet implementations according to:

BTL Test Plan-20.0.1_final
ASHRAE 135.1 - 2019
BTL Specified Tests-20.0.1_final

TC51348

This report shall not be reproduced, except in full, without the permission of the test laboratory.

1. Test Report Revision	Version 1.00
2. Test Laboratory and location of test items	Protocol Test Lab Pentagon Tower P4, 3rd Floor, Magarpatta City, Hadapsar, Pune India Zip 411 028 Tel: +91 20 6701 0025 Fax: +91 20 6701 0008 www.protocoltestlab.com
3. Applicant / Vendor	Andrew Grove Senior Firmware Engineer Dwyer Instruments, LLC 102 Indiana Hwy 212 Michigan City, IN 46360 USA
4. Description of the IUT	
4.1 Product Description	Relative Humidity and Temperature Transmitter
4.2 Product name	Series RHPX Humidity/Temperature Transmitter
4.3 Product model number	RHPX-3SWC0-00-LCD
4.4 Device Profile(s)	B-ASC
4.5 Firmware Revision	1.2
4.6 Application Software Version	0.9.9R
4.7 BACnet Protocol Version / Revision	Version : 1 Revision : 22
5. Test specification	
5.1 Test standards	ANSI/ASHRAE 135.1-2019 BTL Test Plan-20.0.1_final BTL Specified Tests-20.0.1_final interim_tests_20.0-v5 BTL Checklist-20.0.1_final
5.2 Test software	Visual Test Shell version 3.6.5.0 BTF Version 15.2.0.317 Wireshark Version 2.6.7
5.3 Test scope	Full initial application
6. IUT Specific	
6.1 Special Test Instructions	Yes
6.2 Tools	
a. Hardware	Yes
b. Software	Yes

7. Test attendants	7.1 Test laboratory	Aishwarya Ankaram
---------------------------	----------------------------	-------------------

8. Test dates	8.1 Date of receipt of test items	March 13, 2023
	8.2 Start of test	March 14, 2023
	8.3 End of test	April 11, 2023

9. Project Data	9.1 Project Name	TC51348
------------------------	-------------------------	---------

10. BACnet Standard Services

BACnet Standard Service	Initiation supported	Execution supported
	x: yes	x: yes
	o: no	o: no
AcknowledgeAlarm	o	o
AddListElement	o	o
AtomicReadFile	o	o
AtomicWriteFile	o	o
ConfirmedCOVNotification	o	o
ConfirmedEventNotification	o	o
ConfirmedPrivateTransfer	o	o
ConfirmedTextMessage	o	o
CreateObject	o	o
DeleteObject	o	o
DeviceCommunicationControl	o	x
GetAlarmSummary	o	o
GetEnrollmentSummary	o	o
GetEventInformation	o	o
I-Am	x	o
I-Have	x	o
LifeSafetyOperation	o	o
ReadProperty	o	x
ReadPropertyMultiple	o	o
ReadRange	o	o
ReinitializeDevice	o	x
RemoveListElement	o	o
SubscribeCOV	o	o
SubscribeCOVProperty	o	o
TimeSynchronization	o	o
UnconfirmedCOVNotification	o	o
UnconfirmedEventNotification	o	o
UnconfirmedPrivateTransfer	o	o
UnconfirmedTextMessage	o	o
UTCTimeSynchronization	o	o
VT-Open	o	o
VT-Close	o	o
VT-Data	o	o
Who-Has	o	x
Who-Is	o	x
WriteProperty	o	x
WritePropertyMultiple	o	o
WriteGroup	o	o
SubscribeCOVPropertyMultiple	o	o
ConfirmedCOVNotificationMultiple	o	o
UnconfirmedCOVNotificationMultiple	o	o
ConfirmedAuditNotification	o	o
AuditLogQuery	o	o
UnconfirmedAuditNotification	o	o

11. BACnet Standard Object Types

BACnet Standard Object Types	Supported
	x: yes
	o: no
Analog Input	x
Analog Output	o
Analog Value	x
Binary Input	o
Binary Output	o
Binary Value	o
Calendar	o
Command	o
Device Object	x
Event Enrollment	o
File	o
Group	o
Loop	o
Multi-state Input	o
Multi-state Output	o
Notification Class	o
Program	o
Schedule	o
Averaging	o

Multi-state Value	x
Trend Log	o
Life Safety Point	o
Life Safety Zone	o
Accumulator	o
Pulse Converter	o
Event Log	o
Global Group	o
Trend Log Multiple	o
Load Control	o
Structured View	o
Access Door	o
Access Credential	o
Access Point	o
Access Rights	o
Access User	o
Access Zone	o
Credential Data Input	o
Network Security	o
BitString Value	o
CharacterString Value	o
Date Pattern Value	o
Date Value	o
DateTime Pattern Value	o
DateTime Value	o
Integer Value	o
Large Analog Value	o
OctetString Value	o
Positive Integer Value	o
Time Pattern Value	o
Time Value	o
Notification Forwarder	o
Alert Enrollment	o
Channel	o
Lighting Output	o
Binary Lighting Output	o
Network Port	x
Timer	o
Elevator Group	o
Lift	o
Escalator	o
Staging	o
Audit Log	o
Audit Reporter	o

12. Results of the EPICS Consistency Test

The Electronic Protocol Implementation Conformance Statement (EPICS) is compliant with the requirements of the BACnet Test Standard ASHRAE 135.1-2019.

13. Test result

The following test results relate only to the device tested.

BIBB	Description of the BIBB	Supported	Tested	Test Result
		x: yes	x: yes	F: Failed Negative result/test failed. The IUT does not meet the requirements.
		o: no	o: no	P(bp) Positive result (base product)/test passed. This functional item was completely tested in conjunction with a predecessor or peer firmware revision.
				P(sc) Positive result (spot check)/test passed Spot checks were performed to assure that functional items that have already been tested with a predecessor firmware revision are not affected by side effects.
				O Not applicable to IUT
				N Not evaluated
				- Not supported by IUT
DS	Data Sharing			
DS-RP-A	Data Sharing-ReadProperty-A	o	o	-
DS-RP-B	Data Sharing-ReadProperty-B	x	x	P
DS-RPM-A	Data Sharing-ReadPropertyMultiple-A	o	o	-
DS-RPM-B	Data Sharing-ReadPropertyMultiple-B	o	o	-
DS-WP-A	Data Sharing-WriteProperty-A	o	o	-
DS-WP-B	Data Sharing-WriteProperty-B	x	x	P
DS-WPM-A	Data Sharing-WritePropertyMultiple-A	o	o	-
DS-WPM-B	Data Sharing-WritePropertyMultiple-B	o	o	-
DS-COV-A	Data Sharing-Change Of Value-A	o	o	-
DS-COV-B	Data Sharing-Change Of Value-B	o	o	-
DS-COVP-A	Data Sharing-Change Of Value Property-A	o	o	-
DS-COVP-B	Data Sharing-Change Of Value Property-B	o	o	-
DS-COVU-A	Data Sharing-Change Of Value Unsubscribed-A	o	o	-
DS-COVU-B	Data Sharing-Change Of Value Unsubscribed-B	o	o	-
DS-V-A	Data Sharing-View-A	o	o	-
DS-AV-A	Data Sharing-Advanced View-A	o	o	-
DS-M-A	Data Sharing-Modify-A	o	o	-
DS-AM-A	Data Sharing-Advanced Modify-A	o	o	-
DS-WG-A	Data Sharing-WriteGroup-A	o	o	-
DS-WG-I-B	Data Sharing-WriteGroup-Internal-B	o	o	-
DS-WG-E-B	Data Sharing-WriteGroup-External-B	o	o	-
DS-VSI-B	Data Sharing-Value Source Information-B	o	o	-
DS-COVM-A	Data Sharing-Change Of Value Multiple-A	o	o	-
DS-COVM-B	Data Sharing-Change Of Value Multiple-B	o	o	-
Initiates				
ReadRange	Initiates ReadRange	o	o	-
Executes				
ReadRange	Executes ReadRange	o	o	-
DS-LSV-A	Data Sharing-Life Safety View-A	o	o	-
DS-LSAV-A	Data Sharing-Life Safety Advanced View-A	o	o	-
DS-LSM-A	Data Sharing-Life Safety Modify-A	o	o	-
DS-LSAM-A	Data Sharing-Life Safety Advanced Modify-A	o	o	-
DS-ACV-A	Data Sharing-Access Control View-A	o	o	-
DS-ACAV-A	Data Sharing-Access Control Advanced View-A	o	o	-
DS-ACM-A	Data Sharing-Access Control Modify-A	o	o	-

DS-ACAM-A	Data Sharing-Access Control Advanced Modify-A	o	o	-
DS-ACUC-A	Data Sharing-Access Control User Configuration-A	o	o	-
DS-ACUC-B	Data Sharing-Access Control User Configuration-B	o	o	-
DS-ACSC-A	Data Sharing-Access Control Site Configuration-A	o	o	-
DS-ACSC-B	Data Sharing-Access Control Site Configuration-B	o	o	-
DS-ACAD-A	Data Sharing-Access Control Access Door-A	o	o	-
DS-ACAD-B	Data Sharing-Access Control Access Door-B	o	o	-
DS-ACCDI-A	Data Sharing-Access Control Credential Data Input-A	o	o	-
DS-ACCDI-B	Data Sharing-Access Control Credential Data Input-B	o	o	-
DS-LO-A	Data Sharing-Lighting Output -A	o	o	-
DS-LOS-A	Data Sharing-Lighting Output Status-A	o	o	-
DS-ALO-A	Data Sharing-Advanced Lighting Output-A	o	o	-
DS-LO-B	Data Sharing-Lighting Output-B	o	o	-
DS-BLO-B	Data Sharing-Binary Lighting Output-B	o	o	-
DS-LOM-A	Data Sharing-Lighting Output Management-A	o	o	-
DS-LV-A	Data Sharing-Lighting View-A	o	o	-
DS-LAV-A	Data Sharing-Lighting Advanced View-A	o	o	-
DS-LM-A	Data Sharing-Lighting Modify-A	o	o	-
DS-EV-A	Data Sharing-Elevator View - A	o	o	-
DS-EAM-A	Data Sharing-Elevator Advanced Modify - A	o	o	-
DS-EM-A	Data Sharing-Elevator Modify - A	o	o	-
DS-EAV-A	Data Sharing-Elevator Advanced View - A	o	o	-
DS-LAM-A	Data Sharing-Lighting Advanced Modify-A	o	o	-
AE	Alarm and Event			
AE-N-A	Alarm and Event Management-Notification-A	o	o	-
AE-N-I-B	Alarm and Event Management-Notification Internal-B	o	o	-
AE-N-E-B	Alarm and Event Management-Notification External-B	o	o	-
AE-ACK-A	Alarm and Event Management-Acknowledge-A	o	o	-
AE-ACK-B	Alarm and Event Management-Acknowledge-B	o	o	-
AE-ASUM-A	Alarm and Event Management-Alarm Summary-A	o	o	-
AE-ASUM-B	Alarm and Event Management-Alarm Summary-B	o	o	-
AE-ESUM-A	Alarm and Event Management-Enrollment Summary-A	o	o	-
AE-ESUM-B	Alarm and Event Management-Enrollment Summary-B	o	o	-
AE-INFO-A	Alarm and Event Management-Information-A	o	o	-
AE-INFO-B	Alarm and Event Management-Information-B	o	o	-
AE-LS-A	Alarm and Event Management-LifeSafety-A	o	o	-
AE-LS-B	Alarm and Event Management-LifeSafety-B	o	o	-
AE-VN-A	Alarm and Event Management-View Notifications-A	o	o	-
AE-AVN-A	Alarm and Event Management-Advanced View Notifications-A	o	o	-
AE-VM-A	Alarm and Event Management-View and Modify-A	o	o	-
AE-AVM-A	Alarm and Event Management-Advanced View and Modify-A	o	o	-
AE-AS-A	Alarm and Event Management-Alarm Summary View-A	o	o	-
AE-ELV-A	Alarm and Event Management-Event Log View-A	o	o	-
AE-ELVM-A	Alarm and Event Management-Event Log View and Modify-A	o	o	-
AE-EL-I-B	Alarm and Event Management-Event Log-Internal-B	o	o	-
AE-EL-E-B	Alarm and Event Management-Event Log-External-B	o	o	-
AE-NF-B	Alarm and Event Management-Notification Forwarder-B	o	o	-
AE-NF-I-B	Alarm and Event Management-Notification Forwarder-Internal-B	o	o	-
AE-CRL-B	Alarm and Event Management-Configurable Recipient Lists-B	o	o	-
AE-TES-A	Alarm and Event Management-Temporary Event Subscription-A	o	o	-
AE-LSVN-A	Alarm and Event Management-Life Safety View Notifications-A	o	o	-
AE-LSAVN-A	Alarm and Event Management-Life Safety Advanced View Notifications-A	o	o	-
AE-LSVM-A	Alarm and Event Management-Life Safety View and Modify-A	o	o	-
AE-LSAVM-A	Alarm and Event Management-Life Safety Advanced View and Modify-A	o	o	-
AE-AC-A	Alarm and Event Management-Access Control-A	o	o	-
AE-AC-B	Alarm and Event Management-Access Control-B	o	o	-
AE-ACAVN-A	Alarm and Event Management-Access Control Advanced View Notifications-A	o	o	-
AE-ACVM-A	Alarm and Event Management-Access Control View and Modify-A	o	o	-
AE-EVM-A	Alarm and Event Management-Elevator View and Modify - A	o	o	-
AE-EAVM-A	Alarm and Event Management-Elevator Advanced View and Modify - A	o	o	-
AE-EAVN-A	Alarm and Event Management-Elevator Advanced View Notifications - A	o	o	-
AE-EVN-A	Alarm and Event Management-Elevator View Notifications - A	o	o	-
AE-ACAVM-A	Alarm and Event Management-Access Control Advanced View and Modify-A	o	o	-
SCHED	Scheduling			
SCHED-A	Scheduling-A	o	o	-
SCHED-I-B	Scheduling-Internal-B	o	o	-
SCHED-E-B	Scheduling-External-B	o	o	-
SCHED-R-B	Scheduling-Readonly-B	o	o	-
SCHED-AVM-A	Scheduling-Advanced View and Modify-A	o	o	-

SCHED-VM-A	Scheduling-View and Modify-A	o	o	-
SCHED-WS-A	Scheduling-Weekly Schedule-A	o	o	-
SCHED-WS-I-B	Scheduling-Weekly Schedule Internal-B	o	o	-
SCHED-TMR-I-B	Scheduling-Timer-Internal-B	o	o	-
SCHED-TMR-E-B	Scheduling-Timer-External-B	o	o	-
T	Trending			
T-VMT-A	Trending-Viewing and Modifying Trends-A	o	o	-
T-VMT-I-B	Trending-Viewing and Modifying Trends Internal-B	o	o	-
T-VMT-E-B	Trending-Viewing and Modifying Trends External-B	o	o	-
T-ATR-A	Trending-Automated Trend Retrieval-A	o	o	-
T-ATR-B	Trending-Automated Trend Retrieval-B	o	o	-
T-VMMV-A	Trending-Viewing and Modifying Multiple Values-A	o	o	-
T-VMMV-I-B	Trending-Viewing and Modifying Multiple Values Internal-B	o	o	-
T-VMMV-E-B	Trending-Viewing and Modifying Multiple Values External-B	o	o	-
T-AMVR-A	Trending-Automated Multiple Value Retrieval-A	o	o	-
T-AMVR-B	Trending-Automated Multiple Value Retrieval-B	o	o	-
T-V-A	Trending-View-A	o	o	-
T-AVM-A	Trending-Advanced View and Modify-A	o	o	-
T-A-A	Trending-Archival-A	o	o	-
DM	Device Management			
DM-DDB-A	Device Management-Dynamic Device Binding-A	o	o	-
DM-DDB-B	Device Management-Dynamic Device Binding-B	x	x	P
DM-DOB-A	Device Management-Dynamic Object Binding-A	o	o	-
DM-DOB-B	Device Management-Dynamic Object Binding-B	x	x	P
DM-DCC-A	Device Management-DeviceCommunicationControl-A	o	o	-
DM-DCC-B	Device Management-DeviceCommunicationControl-B	x	x	P
DM-TM-A	Device Management-Text Message-A	o	o	-
DM-TM-B	Device Management-Text Message-B	o	o	-
DM-TS-A	Device Management-TimeSynchronization-A	o	o	-
DM-TS-B	Device Management-TimeSynchronization-B	o	o	-
DM-UTC-A	Device Management-UTCTimeSynchronization-A	o	o	-
DM-UTC-B	Device Management-UTCTimeSynchronization-B	o	o	-
DM-RD-A	Device Management-ReinitializeDevice-A	o	o	-
DM-RD-B	Device Management-ReinitializeDevice-B	x	x	P
DM-BR-A	Device Management-Backup and Restore-A	o	o	-
DM-BR-B	Device Management-Backup and Restore-B	o	o	-
DM-R-A	Device Management-Restart-A	o	o	-
DM-R-B	Device Management-Restart-B	o	o	-
DM-LM-A	Device Management-List Manipulation-A	o	o	-
DM-LM-B	Device Management-List Manipulation-B	o	o	-
DM-OCD-A	Device Management-Object Creation and Deletion-A	o	o	-
DM-OCD-B	Device Management-Object Creation and Deletion-B	o	o	-
DM-VT-A	Device Management-Virtual Terminal-A	o	o	-
DM-VT-B	Device Management-Virtual Terminal-B	o	o	-
DM-ANM-A	Device Management-Automatic Network Mapping-A	o	o	-
DM-ADM-A	Device Management-Automatic Device Mapping-A	o	o	-
DM-ATS-A	Device Management-Automatic Time Synchronization-A	o	o	-
DM-MTS-A	Device Management-Manual Time Synchronization-A	o	o	-
DM-SP-VM-A	Device Management-Slave Proxy-View and Modify-A	o	o	-
DM-DDA-B	Device Management-Dynamic Device Assignment - B	o	o	-
DM-DDA-A	Device management-Dynamic Device Assignment - A	o	o	-
DM-SP-B	Device Management-Slave Proxy-B	o	o	-
DM-LOM-A	Device Management – Lighting Output Management-A	o	o	-
NM	Network Management			
NM-CE-A	Network Management-Connection Establishment-A	o	o	-
NM-CE-B	Network Management-Connection Establishment-B	o	o	-
NM-RC-A	Network Management-Router Configuration-A	o	o	-
NM-RC-B	Network Management-Router Configuration-B	o	o	-
NM-BBMD-C-B	Network Management-BBMD Configuration-B	o	o	-
NM-SCDC-B	NM - Secure Connect Direct Connect B	o	o	-
NM-SCDC-A	NM - Secure Connect Direct Connect A	o	o	-
NM-SCH-B	NM - Secure Connect Hub -B	o	o	-
NM-R	NM-Routing	o	o	-
NM-BBMD-A	Network Management-BBMD Configuration-A	o	o	-
NM-FDR-A	Network Management-Foreign Device Registration-A	o	o	-
NS	Network Security			

NS-SD	Network Security-Secure Device	o	o	-
NS-ED	Network Security-Encrypted Device	o	o	-
NS-MAD	Network Security-Multi-Application Device	o	o	-
NS-DMK-A	Network Security-Device Master Key-A	o	o	-
NS-DMK-B	Network Security-Device Master Key-B	o	o	-
NS-KS	Network Security-Key Server	o	o	-
NS-TKS	Network Security-Temporary Key Server	o	o	-
NS-SR	Network Security-Secure Router	o	o	-
NS-SP	Network Security-Security Proxy	o	o	-
GW	Gateway			
GW-VN-B	Gateway-Virtual Network-B	o	o	-
GW-EO-B	Gateway-Embedded Objects-B	o	o	-
AR	Audit Reporting			
AR-L-A	Audit Reporting-Logging- A	o	o	-
AR-R-B	Audit Reporting-Reporter-B	o	o	-
AR-R-S-B	Audit Reporting-Reporter-Simple-B	o	o	-
AR-F-B	Audit Reporting-Forwarder-B	o	o	-
AR-V-A	Audit Reporting-View-A	o	o	-
AR-AVM-A	Audit Reporting-Advanced View and Modify-A	o	o	-
WS	BACnet Web Services			
WS Client	BACnet Web Services Client	o	o	-
WS Server	BACnet Web Services Server	o	o	-

14. Device Profile

	Claimed
	x: yes
	o: no
Standard Profiles	
Operator Interfaces	
BACnet Cross-Domain Advanced Operator Workstation (B-XAWS)	o
BACnet Advanced Operator Workstation (B-AWS)	o
BACnet Operator Workstation (B-OWS)	o
BACnet Operator Display (B-OD)	o
Lighting Operator Interfaces	
BACnet Advanced Lighting Workstation (B-ALWS)	o
BACnet Lighting Operator Display (B-LOD)	o
BACnet Advanced Lighting Control Station (B-ALCS)	o
BACnet Lighting Control Station (B-LCS)	o
BACnet Lighting Supervisor (B-LS)	o
BACnet Lighting Device (B-LD)	o
Life Safety Operator Interfaces	
BACnet Advanced Life Safety Workstation (B-ALSWS)	o
BACnet Life Safety Workstation (B-LSWS)	o
BACnet Life Safety Annunciator Panel (B-LSAP)	o
Access Control Operator Interfaces	
BACnet Advanced Access Control Workstation (B-AACWS)	o
BACnet Access Control Workstation (B-ACWS)	o
BACnet Access Control Security Display (B-ACSD)	o
Controllers	
BACnet Building Controller (B-BC)	o
BACnet Advanced Application Controller (B-AAC)	o
BACnet Application Specific Controller (B-ASC)	x
BACnet Smart Actuator (B-SA)	o
BACnet Smart Sensor (B-SS)	o
Life Safety Controllers	
BACnet Advanced Life Safety Controller (B-ALSC)	o
BACnet Life Safety Controller (B-LSC)	o
Access Control Controllers	
BACnet Advanced Access Control Controller (B-AACC)	o
BACnet Access Control Controller (B-ACC)	o
Miscellaneous	
BACnet Router (B-RTR)	o
BACnet Gateway (B-GW)	o
BACnet Broadcast Management Device (B-BBMD)	o
BACnet Access Control Door Controller (B-ACDC)	o
BACnet Access Control Credential Reader (B-ACCR)	o
BACnet General (B-GENERAL)	o

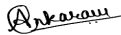
Test Category	Supported	Tested	Test Result
	x: yes	x: yes	P: Passed Positive result/test passed. The IUT meets all requirements.
	o: no	o: no	F: Failed Negative result/test failed. The IUT does not meet the requirements.
			P(bp) Positive result (base product)/test passed. This functional item was completely tested in conjunction with a predecessor or peer firmware revision.
			P(sc) Positive result (spot check)/test passed Spot checks were performed to assure that functional items that have already been tested with a predecessor firmware revision are not affected by side effects.
			O Not applicable to IUT
			N Not evaluated
			- Not supported by IUT
Basic Functionality Tests	x	x	P
Segmentation Support	o	o	-
Private Transfer	o	o	-
BACnet/IP - Annex J - non-BBMD Functionality	o	o	-
BACnet/IP - Annex J - BBMD	o	o	-
BACnet/IPv6 - non-BBMD Functionality	o	o	-
BACnet/IPv6 - BBMD	o	o	-
Data Link Layer - ZigBee	o	o	-
Data Link Layer - Ethernet	o	o	-
Data Link Layer - ARCNET	o	o	-
Data Link Layer - LonTalk	o	o	-
Data Link Layer - MS/TP - Master Node	x	x	P
Data Link Layer - MS/TP - Slave Node	o	o	-
Data Link Layer - Secure Connect	o	o	-
Data Link Layer - Virtual	o	o	-
Data Link Layer - B/IP PAD	o	o	-
Data Link Layer - Other	o	o	-
Routing	o	o	-
Object Tests	x	x	P


All tests were performed according to the BACnet Test standard ASHRAE 135.1-2019 and the BTL Test Plan 20.0.1

The tested functionality of the BACnet implementation described in the EPICS (Annex A to this report) is compliant with the BACnet standard specified in clause 5

Date

April 11, 2023


Aishwarya Ankaram
Tester


Pooja Ugale
Lab Manager

PICS 0
BACnet Protocol Implementation Conformance Statement

Vendor Name: "Dwyer Instruments, LLC"
Product Name: "Series RHPX Humidity/Temperature Transmitter"
Product Model Number: "RHPX-3SWC0-00-LCD"
Product Description: "Relative Humidity and Temperature Transmitter"

BIBBs Supported:

```
{  
DS-RP-B  
DS-WP-B  
DM-DDB-B  
DM-DOB-B  
DM-DCC-B  
DM-RD-B  
}
```

BACnet Standard Application Services Supported:

```
{  
ReadProperty           Execute  
WriteProperty          Execute  
DeviceCommunicationControl Execute  
ReinitializeDevice     Execute  
I-Am                   Initiate  
I-Have                 Initiate  
Who-Has                Execute  
Who-Is                 Execute  
}
```

Standard Object Types Supported:

```
{  
Analog Input  
Analog Value  
Device  
Multi-State Value  
Network Port  
}
```

Data Link Layer Option:

```
{  
MS/TP master. Baud rate(s): 9600,19200,38400,57600,76800,115200  
}
```

Character Sets Supported:

```
{  
ISO 10646 (UTF-8)
```

```
}
```

Special Functionality:

```
{  
Maximum APDU size in octets: 480  
}
```

Default Property Value Restrictions:

```
{  
character-string: <maximum length string: 32>  
unsigned-integer: <minimum: 0; maximum: 4294967295>  
signed-integer: <minimum: -2147483647; maximum: 2147483647>  
real: <minimum: -3.40282347E38; maximum: 3.40282347E38; resolution: 0.01>  
double: <minimum: 2.2250738585072016E-38; maximum: 1.7976931348623157E38;  
resolution: 0.0001>  
date: <minimum: 01-January-1970; maximum: 31-December-2038>  
octet-string: <maximum length string: 256>  
list: <maximum length list: 10>  
variable-length-array: <maximum length array: 10>  
}
```

Fail Times:

```
{  
Notification Fail Time: 30  
Internal Processing Fail Time: 10  
Minimum ON/OFF Time: 2  
Schedule Evaluation Fail Time: 2  
External Command Fail Time: 5  
Program Object State Change Fail Time: 5  
Acknowledgement Fail Time: 2  
Slave Proxy Confirm Interval: 6  
Unconfirmed Response Fail Time: 4  
Activate Changes Fail Time: 60  
Auto Negotiation Fail Time: 15  
Foreign Device Registration Fail Time: 10  
Channel Write Fail Time: 0  
}
```

List of Objects in Test Device:

```
{  
{  
object-identifier: (device, 607003) W  
object-name: ? W  
object-type: device  
system-status: operational  
vendor-name: "Dwyer Instruments, LLC"  
vendor-identifier: 607
```



```
object-name: "Relative Humidity"
object-type: analog-input
present-value: ?
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: percent-relative-humidity
property-list: {present-value, status-flags, event-state,
reliability, out-of-service, units}
}
{
object-identifier: (analog-input, 2)
object-name: "Dew Point degrees C"
object-type: analog-input
present-value: ?
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: degrees-Celsius
property-list: {present-value, status-flags, event-state,
reliability, out-of-service, units}
}
{
object-identifier: (analog-input, 3)
object-name: "Dew Point degrees F"
object-type: analog-input
present-value: ?
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: degrees-Fahrenheit
property-list: {present-value, status-flags, event-state,
reliability, out-of-service, units}
}
{
object-identifier: (analog-input, 4)
object-name: "Enthalpy kJ/kg"
object-type: analog-input
present-value: ?
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: kilojoules-per-kilogram
```

```
property-list: {present-value, status-flags, event-state,
reliability, out-of-service, units}
}
{
object-identifier: (analog-input, 5)
object-name: "Enthalpy BTU/lb"
object-type: analog-input
present-value: ?
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: btus-per-pound
property-list: {present-value, status-flags, event-state,
reliability, out-of-service, units}
}
{
object-identifier: (analog-input, 6)
object-name: "Absolute Humidity g/m^3"
object-type: analog-input
present-value: ?
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: grams-per-cubic-meter
property-list: {present-value, status-flags, event-state,
reliability, out-of-service, units}
}
{
object-identifier: (analog-input, 7)
object-name: "Absolute Humidity lb/MMCF"
object-type: analog-input
present-value: ?
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: ?
property-list: {present-value, status-flags, event-state,
reliability, out-of-service, units}
}
{
object-identifier: (analog-input, 8)
object-name: "Temperature degrees C"
object-type: analog-input
present-value: ?
```

```

status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: degrees-Celsius
property-list: {present-value, status-flags, event-state,
reliability, out-of-service, units}
}
{
object-identifier: (analog-input, 9)
object-name: "Temperature degrees F"
object-type: analog-input
present-value: ?
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: degrees-Fahrenheit
property-list: {present-value, status-flags, event-state,
reliability, out-of-service, units}
}
{
object-identifier: (analog-value, 1)
object-name: "Humidity Offset %RH"
object-type: analog-value
present-value: ? W
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: percent-relative-humidity
min-pres-value: -3.5000000
max-pres-value: 3.5000000
property-list: {max-pres-value, min-pres-value, present-value,
status-flags, event-state, reliability, out-of-service, units}
}
{
object-identifier: (analog-value, 2)
object-name: "Temperature Offset deg F"
object-type: analog-value
present-value: ? W
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
units: degrees-Fahrenheit
min-pres-value: -5.0000000

```

max-pres-value: 5.0000000
property-list: {max-pres-value, min-pres-value, present-value,
status-flags, event-state, reliability, out-of-service, units}
}
{
object-identifier: (multi-state-value, 1)
object-name: "Temperature Display Unit"
object-type: multi-state-value
present-value: ? W
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
number-of-states: 2
state-text: {"Degrees Fahrenheit", "Degrees Celsius"}

property-list: {present-value, status-flags, event-state,
out-of-service, number-of-states, reliability, state-text}
}
{
object-identifier: (multi-state-value, 2)
object-name: "Humidity Display Measurement"
object-type: multi-state-value
present-value: ? W
status-flags: ?
event-state: ?
reliability: ?
out-of-service: ? W
number-of-states: 7
state-text: {"Dew Point (degrees F)", "Dew Point (degrees C)",
Relative Humidity (%RH), "Enthalpy (BTU/lb)",
Absolute Humidity (lb/MMCF), "Enthalpy (kJ/kg)",
Absolute Humidity (g/m³)}

property-list: {present-value, status-flags, event-state,
out-of-service, number-of-states, reliability, state-text}
}
{
object-identifier: (network-port, 1)
object-name: "MS/TP"
object-type: network-port
status-flags: ?
event-state: ?
reliability: ?
out-of-service: False
max-master: ? W
max-info-frames: ? W

network-type: mstp
protocol-level: bacnet-application
network-number: 0
network-number-quality: unknown
changes-pending: ?
mac-address: ?
apdu-length: 480
link-speed: ?
link-speeds: {9600.0, 19200.0, 38400.0, 57600.0, 76800.0, 115200.0}
link-speed-autonegotiate: True
property-list: {status-flags, event-state, reliability,
out-of-service, network-type, protocol-level, network-number,
network-number-quality, changes-pending, mac-address,
apdu-length, link-speed, link-speeds, link-speed-autonegotiate,
max-master, max-info-frames}
}
}
End of BACnet Protocol Implementation Conformance Statement

Section Number	Section Name	Test Document	Test	Test Result	Comments
2.1.1	Basic Functionality (applies to all BACnet devices)	BTL	10.1.1 Processing Application Layer Messages Originating from Remote Networks	Passed	
2.1.1	Basic Functionality (applies to all BACnet devices)	135.1-2019	10.6.1 Ignore Remote Packets	Passed	
2.1.1	Basic Functionality (applies to all BACnet devices)	135.1-2019	10.6.2 Ignore Who-Is-Router-To-Network	Passed	
2.1.1	Basic Functionality (applies to all BACnet devices)	BTL	10.6.3 Ignore Router Commands	Passed	
2.1.1	Basic Functionality (applies to all BACnet devices)	135.1-2019	13.4.3 Invalid Tag	Passed	
2.1.1	Basic Functionality (applies to all BACnet devices)	135.1-2019	13.4.4 Missing Required Parameter	Passed	
2.1.1	Basic Functionality (applies to all BACnet devices)	135.1-2019	13.4.5 Too Many Arguments	Passed	
2.1.1	Basic Functionality (applies to all BACnet devices)	135.1-2019	9.39.1 Unsupported Confirmed Services Test	Passed	Executed Final Acceptance Test
2.1.1	Basic Functionality (applies to all BACnet devices)	135.1-2019	9.39.2 Unsupported Unconfirmed Services Test	Passed	Executed Final Acceptance Test
2.1.1	Basic Functionality (applies to all BACnet devices)	BTL	13.1.12.1 IUT Does Not Support Segmented Response	Passed	
2.1.1	Basic Functionality (applies to all BACnet devices)	BTL	13.9.X1 Ignore Confirmed Broadcast Requests	Passed	Retested on new firmware (1.2) and found as Passed
2.1.2	Basic Functionality (applies to all BACnet devices)	BTL	5 EPICS Consistency Tests	Passed	Executed Final Acceptance Test
2.1.2	Basic Functionality (applies to all BACnet devices)	BTL	7.2.3 Read-only Property Test	Passed	Executed Final Acceptance Test
2.1.2	Basic Functionality (applies to all BACnet devices)	BTL	7.1.2 Non-documented Property Test	Passed	Executed Final Acceptance Test
2.1.3	Basic Functionality (applies to all BACnet devices)	N/A	Verify Checklist - Verify that the IUT claims support for DS-RP-B.	Passed	IUT claims support for DS-RP-B.
2.1.9	Basic Functionality (applies to all BACnet devices)	N/A	Verify Checklist - Verify that the IUT claims support for DM-DDB-B.	Passed	IUT claims support for DM-DDB-B.
2.1.10	Basic Functionality (applies to all BACnet devices)	N/A	Verify Checklist - Verify that the IUT claims support for DM-DOB-B.	Passed	IUT claims support for DM-DOB-B.
3.10.2	Device Object	BTL	7.3.2.10.X3 Ensure Device Object_Name is Configurable	Passed	
3.10.2	Device Object	BTL	7.3.2.10.X4 Ensure Device Object_Identifier is Configurable	Passed	
3.10.3	Device Object	135.1-2019	7.3.2.10.3 Successful Increment of the Database_Revision Property after Creating an Object	Skipped (conditionality)	IUT does not support object creation through any means, not just through BACnet services, hence skipped
3.10.3	Device Object	135.1-2019	7.3.2.10.4 Successful Increment of the Database_Revision Property after Deleting an Object	Skipped (conditionality)	IUT does not support object deletion through any means, not just through BACnet services, hence skipped
3.10.3	Device Object	135.1-2019	7.3.2.10.5 Successful Increment of the Database_Revision Property after Changing the Object_Name Property of an Object	Passed	
3.10.3	Device Object	BTL	7.3.2.10.6 Successful Increment of the Database_Revision Property after Changing the Object_Identifier Property of an Object	Passed	
3.16.1	Multi-state Value Object	135.1-2019	7.3.1.15 Number_Of_States Range Test	Passed	
3.16.3	Multi-state Value Object	135.1-2019	7.3.2.20.2 Number_Of_States and State_Text	Passed	
3.56.1	Network Port Object	BTL	7.3.2.X62.1.3 Network Port Non-Volatility Properties Test	Passed	
3.56.1	Network Port Object	BTL	7.3.2.X62.1.4 Network Port Configuration Conflict Test	Passed	
3.56.1	Network Port Object	BTL	9.18.1.X5 Read Property of the Network Port Object using the Unknown Instance	Passed	
3.56.1	Network Port Object	BTL	9.20.1.X3 Read Property Multiple of the Network Port Object using the Unknown Instance	Skipped (conditionality)	As per the IUT special test instruction provide by vendor IUT does not support execution of ReadPropertyMultiple, hence skipped
3.56.1	Network Port Object	BTL	7.3.2.X62.5 APDU_Length Test	Passed	
4.2.1	Data Sharing - ReadProperty - B	BTL	7.1.1 Read Support Test Procedure	Passed	Executed Final Acceptance Test
4.2.1	Data Sharing - ReadProperty - B	135.1-2019	9.18.2.1 Reading Non-Array Properties with an Array Index	Passed	
4.2.1	Data Sharing - ReadProperty - B	BTL	9.18.2.3 Reading an Unknown Object	Passed	
4.2.1	Data Sharing - ReadProperty - B	135.1-2019	9.18.2.4 Reading an Unknown Property	Passed	
4.2.1	Data Sharing - ReadProperty - B	135.1-2019	9.18.1.3 Reading a Property From the Device Object using the Unknown Instance	Passed	

4.2.1	Data Sharing - ReadProperty - B	BTL	7.1.3 Verifying Property_List against the EPICS	Passed	Executed Final Acceptance Test
4.2.1	Data Sharing - ReadProperty - B	BTL	9.18.1.X4Reading Array Properties at different Array Indexes	Passed	
4.2.2	Data Sharing - ReadProperty - B	BTL	9.18.1.X1 Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped
4.2.3	Data Sharing - ReadProperty - B	BTL	9.18.1.X1 Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped
4.2.4	Data Sharing - ReadProperty - B	BTL	9.18.1.X1 Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped
4.2.5	Data Sharing - ReadProperty - B	BTL	9.18.1.X1 Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped
4.2.6	Data Sharing - ReadProperty - B	BTL	9.18.1.X1 Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped
4.2.8	Data Sharing - ReadProperty - B	BTL	9.18.1.X1 Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped
4.2.10	Data Sharing - ReadProperty - B	BTL	9.18.1.X1 Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped
4.6.1	Data Sharing - WriteProperty - B	BTL	7.2.2 Write Support Test Procedure	Passed	Executed FAT
4.6.1	Data Sharing - WriteProperty - B	BTL	9.22.1.3 Writing a Non-Commandable Property with a Priority	Passed	
4.6.1	Data Sharing - WriteProperty - B	BTL	9.22.2.3 Writing with a Property Value Having the Wrong Datatype	Passed	
4.6.1	Data Sharing - WriteProperty - B	BTL	9.22.2.4 Writing with a Property Value that is Out of Range	Passed	Executed FAT
4.6.1	Data Sharing - WriteProperty - B	BTL	9.22.2.X1 Writing Non-Array Read-only Property with an Array Index	Passed	
4.6.1	Data Sharing - WriteProperty - B	N/A	Verify Checklist - Verify that if the IUT is capable of executing AddListElement and/or RemoveListElement, that the DS-WP-B option "Contains Writable List Properties" is claimed.	Passed	IUT is not capable of executing AddListElement and/or RemoveListElement
4.6.1	Data Sharing - WriteProperty - B	BTL	9.22.2.X2Resizing a writable fixed size array property	Skipped(conditionality)	As per the IUT special test instruction provide by vendor IUT does not contain a writable fixed size array property,hence skipped.
4.6.1	Data Sharing - WriteProperty - B	BTL	9.22.2.X4Writing a Property Value Related to Non-supported Optional Functionality	Skipped(conditionality)	As per the IUT special test instruction provide by vendor there is no any support a writable property with an explicit mention BACnet-Error-code OPTIONAL_FUNCTIONALITY_NOT_SUPPORTED,hence skipped.
4.6.2	Data Sharing - WriteProperty - B	BTL	9.22.2.1 Writing Non-Array Properties with an Array Index	Passed	
4.6.8	Data Sharing - WriteProperty - B	BTL	9.22.1.X2 Writing to Properties Based on Data Type	Skipped(conditionality)	135.1-2019 - 7.2.2 is executed,hence skipped.
4.6.9	Data Sharing - WriteProperty - B	BTL	9.22.1.X2 Writing to Properties Based on Data Type	Skipped(conditionality)	135.1-2019 - 7.2.2 is executed,hence skipped.
4.6.11	Data Sharing - WriteProperty - B	BTL	9.22.1.X2 Writing to Properties Based on Data Type	Skipped(conditionality)	135.1-2019 - 7.2.2 is executed,hence skipped.
4.6.12	Data Sharing - WriteProperty - B	BTL	9.22.1.X2 Writing to Properties Based on Data Type	Skipped(conditionality)	135.1-2019 - 7.2.2 is executed,hence skipped.
4.6.16	Data Sharing - WriteProperty - B	BTL	9.22.1.X2 Writing to Properties Based on Data Type	Skipped(conditionality)	135.1-2019 - 7.2.2 is executed,hence skipped.

					Retested, as per vendor instruction through the email communication dt. 5/04/23 and found as passed.
8.2.1	Device Management - Dynamic Device Binding - B	135.1-2019	9.33.1.1Local Broadcast, General Inquiry	Passed	
8.2.1	Device Management - Dynamic Device Binding - B	135.1-2019	9.33.1.2Global Broadcast, General Inquiry	Passed	
8.2.1	Device Management - Dynamic Device Binding - B	BTL	9.33.1.3 Local Broadcast, Specific Device Inquiry with IUT Outside of the Device Range	Passed	
8.2.1	Device Management - Dynamic Device Binding - B	135.1-2019	9.33.1.4Local Broadcast, Specific Device Inquiry with IUT Device Instance Equal to Low Limit of Device Range	Passed	
8.2.1	Device Management - Dynamic Device Binding - B	135.1-2019	9.33.1.5Local Broadcast, Specific Device Inquiry with IUT Device Instance Equal to High Limit of Device Range	Passed	
8.2.1	Device Management - Dynamic Device Binding - B	135.1-2019	9.33.1.6Local Broadcast, Specific Device Inquiry with IUT Inside of the Device Range	Passed	
8.2.1	Device Management - Dynamic Device Binding - B	135.1-2019	9.33.2.1General Inquiry, Global Broadcast from a Remote Network	Passed	
8.2.1	Device Management - Dynamic Device Binding - B	135.1-2019	9.33.2.2General Inquiry, Remote Broadcast	Passed	
8.2.1	Device Management - Dynamic Device Binding - B	BTL	9.33.2.3General Inquiry, Directed to a Remote Device	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.1 Object ID Version with No Device Range	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.2 Object Name Version with no Device Range	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.3 Object ID Version with IUT Inside of the Device Range	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.4 Object ID Version with IUT Outside of the Device Range	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.5 Object Name Version with IUT Inside of the Device Range	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	135.1-2019	9.32.1.6Object Name Version with IUT Outside of the Device Range	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.7 Object ID Version with IUT Device Instance Equal to the High Limit of the Device Range	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.8 Object ID Version with IUT Device Instance Equal to the Low Limit of the Device Range	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.9 Object Name Version with IUT Device Instance Equal to the High Limit of the Device Range	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.10 Object Name Version with IUT Device Instance Equal to the Low Limit of the Device Range	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.11 Object Name Version, Directed to a Specific MAC Address	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.2.1 Object ID Version, Global Broadcast from a Remote Network	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.2.2 Object ID Version, Remote Broadcast	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.12 Who-Has After Object_Name Changed	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.1.13 Who-Has After Object_Identifier Changed	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.2.X3 Who-Has for Non-existent Object_Name	Passed	
8.4.1	Device Management - Dynamic Object Binding - B	BTL	9.32.2.X5 Who-Has for Non-existent Object_Identifier	Passed	Executed FAT
8.14.1	Device Management - Device Communication Control - B	BTL	9.24.1.11Ensure that DISABLE option is not supported by IUT claiming PR >= 20	Passed	
8.14.2	Device Management - Device Communication Control - B	BTL	9.24.2.1Invalid Password	Passed	
8.14.2	Device Management - Device Communication Control - B	BTL	9.24.2.2Missing Password	Passed	
8.14.4	Device Management - Device Communication Control - B	135.1-2019	9.24.1.3Finite Time Duration	Skipped(conditionality)	IUT supports PR 22,hence skipped
8.14.4	Device Management - Device Communication Control - B	135.1-2019	9.24.1.4Finite Time Duration Restored by DeviceCommunicationControl	Skipped(conditionality)	IUT supports PR 22,hence skipped
8.14.4	Device Management - Device Communication Control - B	135.1-2019	9.24.1.8Finite Time Duration, Disable Initiation	Passed	
8.14.5	Device Management - Device Communication Control - B	135.1-2019	9.24.1.1Indefinite Time Duration Restored by DeviceCommunicationControl	Skipped(conditionality)	IUT supports PR 22,hence skipped
8.14.5	Device Management - Device Communication Control - B	135.1-2019	9.24.1.6Indefinite Time Duration, Disable-Initiation, Restored by DeviceCommunicationControl	Passed	
8.14.6	Device Management - Device Communication Control - B	135.1-2019	9.24.1.2Indefinite Time Duration Restored by ReinitializeDevice	Skipped(conditionality)	IUT supports PR is 22,hence skipped
8.14.6	Device Management - Device Communication Control - B	BTL	9.24.1.5 Finite Time Duration Restored by ReinitializeDevice	Skipped(conditionality)	IUT supports PR is 22,hence skipped
8.14.6	Device Management - Device Communication Control - B	BTL	9.24.2.3 Restore by ReinitializeDevice with Invalid 'Reinitialized State of Device'	Skipped(conditionality)	IUT supports PR is 22,hence skipped
8.14.6	Device Management - Device Communication Control - B	135.1-2019	9.24.1.7Indefinite Time Duration, Disable-Initiation, Restored by ReinitializeDevice	Passed	
8.14.6	Device Management - Device Communication Control - B	BTL	9.24.1.12Disable of Service Initiation Restored by ReinitializeDevice	Passed	
8.14.7	Device Management - Device Communication Control - B	135.1-2019	9.24.1.9Disable of Service Initiation Restored by Time Duration	Passed	
8.14.7	Device Management - Device Communication Control - B	135.1-2019	9.24.1.10Disable of Service Initiation Restored by DeviceCommunicationControl	Passed	
8.16.1	Device Management - Reinitialize Device - B	BTL	9.27.2.XRjects Unsupported Reinitialize Types	Passed	
8.16.2	Device Management - Reinitialize Device - B	135.1-2019	9.27.1.4WARMSTART with a Correct Password	Passed	
8.16.2	Device Management - Reinitialize Device - B	BTL	9.27.2.4 WARMSTART with Missing or Invalid Password	Passed	
8.16.4	Device Management - Reinitialize Device - B	135.1-2019	9.27.1.2COLDSTART with a Correct Password	Passed	
8.16.4	Device Management - Reinitialize Device - B	BTL	9.27.2.3 COLDSTART with Missing or Invalid Password	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.1.9.6 Max Info Frame Check	Passed	

9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.2 Verify Tpostdrive	Passed	38400,9600,19200,78600,57600 and 115200 Baud Rate. Picoscope is the instrument used to measure the time duration.The uncertainty of the Picoscope is ±11.50 The time readings of the IUT, falls well within the range mentioned in the test standard, so we have not taken into consideration the Uncertainty of the Picoscope.
9.1.1	Data Link Layer - MS/TP - Master Node	BTL	12.1.3.3 Verify Tframe_gap	Passed	38400,9600,19200,78600,57600 and 115200 Baud Rate. Picoscope is the instrument used to measure the time duration.The uncertainty of the Picoscope is ±11.50 The time readings of the IUT, falls well within the range mentioned in the test standard, so we have not taken into consideration the Uncertainty of the Picoscope.
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.4 Verify Tturnaround	Passed	38400,9600,19200,78600,57600 and 115200 Baud Rate. Picoscope is the instrument used to measure the time duration.The uncertainty of the Picoscope is ±11.50 The time readings of the IUT, falls well within the range mentioned in the test standard, so we have not taken into consideration the Uncertainty of the Picoscope.
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.5 Verify Treply_delay	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.6 Verify Tusage_delay After a Token w/ Serial Analyzer	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.7 Verify Tusage_delay After Poll For Master w/ Serial Analyzer	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.8 Verify Npoll w/ Serial Analyzer	Passed	Executed on BR38400,9600,19200,78600,57600 and 115200
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.9 Verify Tusage_timeout w/ Serial Analyzer	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.12 Master Node Data Frame Test	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.13 Poll for Master w/ Serial Analyzer	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.16 MS/TP Network Startup Tests (IUT power on Variation)	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.17 MS/TP Network Startup Tests (IUTs wire connected)	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.18 MS/TP Network Startup Tests (IUTs wire disconnected)	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.19 MS/TP Network Startup Tests (Reference device joins the MS/TP network)	Passed	
9.1.1	Data Link Layer - MS/TP - Master Node	BTL	2.2.X1 Data Not For Us Test	Passed	

9.1.1	Data Link Layer - MS/TP - Master Node	BTL	7.3.2.X62.1.2Verify Network Configuration Through Network Port Object Test	Passed	
9.1.2	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.10 Max_Master Test	Passed	
9.1.4	Data Link Layer - MS/TP - Master Node	135.1-2019	12.1.3.11 Max_Info_Frames Test	Passed	
9.1.8	Data Link Layer - MS/TP - Master Node	BTL	7.3.2.X62.1.1Configure Network Through Network Port Object Test	Passed	
3.1.2	Analog Input Object	BTL	7.3.1.1.X1Out_Of_Service, Status_Flags, and Reliability Test	Passed	
3.2.2	Analog Value Object	BTL	7.3.1.1.X1Out_Of_Service, Status_Flags, and Reliability Test	Passed	
3.2.2	Analog Value Object	BTL	7.3.1.1.X2 Out_Of_Service for Commandable Value Objects Test	Skipped(conditionality)	Analog Value Object is not commandable, hence skipped

TEST SUMMARY	100%
Total Tests	127
Not Tested	0
Passed	103
Failed	0
NA	0
Skipped(conditionality)	24

Test Completion date	11-Apr-2023
Protocol revision	22
Firmware Revision	1.2
Vendor	Dwyer Instruments, LLC
Product	Series RHPX
BACnet Profile	B-ASC
Application Number	TC51348

11-Apr-2023
22
1.2
Dwyer Instruments, LLC
Series RHPX
B-ASC
TC51348

Issues	3
---------------	---

SrNo.	TP Ref No	Test ID	Date	Firmware Revision	Test Title	Status	Comments	Issue #
1	2.1.1	BTL - 10.1.1	29-Mar-2023	1	Processing Application Layer Messages Originating from Remote Networks	Passed		
2	2.1.1	135.1-2019 - 10.6.1	29-Mar-2023	1	Ignore Remote Packets	Passed		
3	2.1.1	135.1-2019 - 10.6.2	29-Mar-2023	1	Ignore Who-Is-Router-To-Network	Passed		
4	2.1.1	BTL - 10.6.3	29-Mar-2023	1	Ignore Router Commands	Passed		
5	2.1.1	135.1-2019 - 13.4.3	14-Mar-2023	1	Invalid Tag	Passed		
6	2.1.1	135.1-2019 - 13.4.4	14-Mar-2023	1	Missing Required Parameter	Passed		
7	2.1.1	135.1-2019 - 13.4.5	14-Mar-2023	1	Too Many Arguments	Passed		
8	2.1.1	135.1-2019 - 9.39.1	11-Apr-2023	1.2	Unsupported Confirmed Services Test	Passed	Executed Final Acceptance Test	
9	2.1.1	135.1-2019 - 9.39.2	11-Apr-2023	1.2	Unsupported Unconfirmed Services Test	Passed	Executed Final Acceptance Test	
10	2.1.1	BTL - 13.1.12.1	15-Mar-2023	1	IUT Does Not Support Segmented Response	Passed		
11	2.1.1	BTL - 13.9.X1	11-Apr-2023	1.2	Ignore Confirmed Broadcast Requests	Passed	Retested on new firmware (1.2) and found as Passed	3
12	2.1.2	BTL - 5	11-Apr-2023	1.2	EPICS Consistency Tests	Passed	Executed Final Acceptance Test	2
13	2.1.2	BTL - 7.2.3	11-Apr-2023	1.2	Read-only Property Test	Passed	Executed Final Acceptance Test	
14	2.1.2	BTL - 7.1.2	11-Apr-2023	1.2	Non-documented Property Test	Passed	Executed Final Acceptance Test	
15	2.1.3	N/A	20-Mar-2023	1	Verify Checklist - Verify that the IUT claims support for DS-RP-B.	Passed	IUT claims support for DS-RP-B,hence passed	
16	2.1.9	N/A	20-Mar-2023	1	Verify Checklist - Verify that the IUT claims support for DM-DDB-B.	Passed	IUT claims support for DM-DDB-B,hence passed	
17	2.1.10	N/A	20-Mar-2023	1	Verify Checklist - Verify that the IUT claims support for DM-DOB-B.	Passed	IUT claims support for DM-DOB-B,hence passed	
18	3.10.2	BTL - 7.3.2.10.X3	14-Mar-2023	1	Ensure Device Object_Name is Configurable	Passed		
19	3.10.2	BTL - 7.3.2.10.X4	14-Mar-2023	1	Ensure Device Object_Identifier is Configurable	Passed		
20	3.10.3	135.1-2019 - 7.3.2.10.3	20-Mar-2023	1	Successful Increment of the Database_Revision Property after Creating an Object	Skipped(conditionality)	IUT does not support object creation through any means, not just through BACnet services,hence skipped	
21	3.10.3	135.1-2019 - 7.3.2.10.4	20-Mar-2023	1	Successful Increment of the Database_Revision Property after Deleting an Object	Skipped(conditionality)	IUT does not support object deletion through any means, not just through BACnet services,hence skipped	
22	3.10.3	135.1-2019 - 7.3.2.10.5	14-Mar-2023	1	Successful Increment of the Database_Revision Property after Changing the Object_Name Property of an Object	Passed		
23	3.10.3	BTL - 7.3.2.10.6	14-Mar-2023	1	Successful Increment of the Database_Revision Property after Changing the Object_Identifier Property of an Object	Passed		
24	3.16.1	135.1-2019 - 7.3.1.15	28-Mar-2023	1	Number_Of_States Range Test	Passed		
25	3.16.3	135.1-2019 - 7.3.2.20.2	15-Mar-2023	1	Number_Of_States and State_Text	Passed		
26	3.56.1	BTL - 7.3.2.X62.1.3	29-Mar-2023	1	Network Port Non-Volatility Properties Test	Passed		
27	3.56.1	BTL - 7.3.2.X62.1.4	29-Mar-2023	1	Network Port Configuration Conflict Test	Passed		

28	3.56.1	BTL - 9.18.1.X5	24-Mar-2023		1	ReadProperty of the Network Port Object using the Unknown Instance	Passed		
29	3.56.1	BTL - 9.20.1.X3	24-Mar-2023		1	ReadPropertyMultiple of the Network Port Object using the Unknown Instance	Skipped(conditionality)	As per the IUT special test instruction provide by vendor IUT does not support execution of ReadPropertyMultiple,hence skipped	
30	3.56.1	BTL - 7.3.2.X62.5	29-Mar-2023		1	APDU_Length Test	Passed		
31	4.2.1	BTL - 7.1.1	11-Apr-2023		1.2	Read Support Test Procedure	Passed	Executed Final Acceptance Test	
32	4.2.1	135.1-2019 - 9.18.2.1	20-Mar-2023		1	Reading Non-Array Properties with an Array Index	Passed		
33	4.2.1	BTL - 9.18.2.3	15-Mar-2023		1	Reading an Unknown Object	Passed		
34	4.2.1	135.1-2019 - 9.18.2.4	20-Mar-2023		1	Reading an Unknown Property	Passed		
35	4.2.1	135.1-2019 - 9.18.1.3	20-Mar-2023		1	Reading a Property From the Device Object using the Unknown Instance	Passed		
36	4.2.1	BTL - 7.1.3	7-Apr-2023		1.1	Verifying Property_List against the EPICS	Passed	Executed Final Acceptance Test	
37	4.2.1	BTL - 9.18.1.X4	22-Mar-2023		1	Reading Array Properties at different Array Indexes	Passed		
38	4.2.2	BTL - 9.18.1.X1	24-Mar-2023		1	Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped	
39	4.2.3	BTL - 9.18.1.X1	24-Mar-2023		1	Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped	
40	4.2.4	BTL - 9.18.1.X1	24-Mar-2023		1	Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed, hence skipped	
41	4.2.5	BTL - 9.18.1.X1	24-Mar-2023		1	Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed, hence skipped	
42	4.2.6	BTL - 9.18.1.X1	24-Mar-2023		1	Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped	
43	4.2.8	BTL - 9.18.1.X1	24-Mar-2023		1	Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped	
44	4.2.10	BTL - 9.18.1.X1	24-Mar-2023		1	Reading Properties Based on Data Type	Skipped(conditionality)	BTL - 7.1 is executed,hence skipped	
45	4.6.1	BTL - 7.2.2	10-Apr-2023		1.1	Write Support Test Procedure	Passed	Executed FAT	
46	4.6.1	BTL - 9.22.1.3	27-Mar-2023		1	Writing a Non-Commandable Property with a Priority	Passed		
47	4.6.1	BTL - 9.22.2.3	21-Mar-2023		1	Writing with a Property Value Having the Wrong Datatype	Passed		
48	4.6.1	BTL - 9.22.2.4	10-Apr-2023		1.1	Writing with a Property Value that is Out of Range	Passed	Exceuted FAT	
49	4.6.1	BTL - 9.22.2.X1	22-Mar-2023		1	Writing Non-Array Read-only Property with an Array Index	Passed		
50	4.6.1	N/A	29-Mar-2023		1	Verify Checklist - Verify that if the IUT is capable of executing AddListElement and/or RemoveListElement, that the DS-WP-B option "Contains Writable List Properties" is claimed.	Passed	IUT is not capable of executing AddListElement and/or RemoveListElement	
51	4.6.1	BTL - 9.22.2.X2	24-Mar-2023		1	Resizing a writable fixed size array property	Skipped(conditionality)	As per the IUT special test instruction provide by vendor IUT does not contain a writable fixed size array property,hence skipped.	
52	4.6.1	BTL - 9.22.2.X4	24-Mar-2023		1	Writing a Property Value Related to Non-supported Optional Functionality	Skipped(conditionality)	As per the IUT special test instruction provide by vendor there is no any support a writable property with an explicit mention BACnet-Error-code OPTIONAL_FUNCTIONALITY_NOT_SUPPORTED,hence skipped.	

53	4.6.2	BTL - 9.22.2.1	20-Mar-2023	1	Writing Non-Array Properties with an Array Index	Passed		
54	4.6.8	BTL - 9.22.1.X2	24-Mar-2023	1	Writing to Properties Based on Data Type	Skipped(conditionality)	135.1-2019 - 7.2.2 is executed,hence skipped.	
55	4.6.9	BTL - 9.22.1.X2	24-Mar-2023	1	Writing to Properties Based on Data Type	Skipped(conditionality)	135.1-2019 - 7.2.2 is executed,hence skipped.	
56	4.6.11	BTL - 9.22.1.X2	24-Mar-2023	1	Writing to Properties Based on Data Type	Skipped(conditionality)	135.1-2019 - 7.2.2 is executed,hence skipped.	
57	4.6.12	BTL - 9.22.1.X2	24-Mar-2023	1	Writing to Properties Based on Data Type	Skipped(conditionality)	135.1-2019 - 7.2.2 is executed,hence skipped.	
58	4.6.16	BTL - 9.22.1.X2	24-Mar-2023	1	Writing to Properties Based on Data Type	Skipped(conditionality)	135.1-2019 - 7.2.2 is executed,hence skipped.	
59	8.2.1	135.1-2019 - 9.33.1.1	6-Apr-2023	1	Local Broadcast, General Inquiry	Passed	Retested, as per vendor instruction through the email communication dt. 5/04/23 and found as passed.	1
60	8.2.1	135.1-2019 - 9.33.1.2	27-Mar-2023	1	Global Broadcast, General Inquiry	Passed		
61	8.2.1	BTL - 9.33.1.3	27-Mar-2023	1	Local Broadcast, Specific Device Inquiry with IUT Outside of the Device Range	Passed		
62	8.2.1	135.1-2019 - 9.33.1.4	27-Mar-2023	1	Local Broadcast, Specific Device Inquiry with IUT Device Instance Equal to Low Limit of Device Range	Passed		
63	8.2.1	135.1-2019 - 9.33.1.5	27-Mar-2023	1	Local Broadcast, Specific Device Inquiry with IUT Device Instance Equal to High Limit of Device Range	Passed		
64	8.2.1	135.1-2019 - 9.33.1.6	27-Mar-2023	1	Local Broadcast, Specific Device Inquiry with IUT Inside of the Device Range	Passed		
65	8.2.1	135.1-2019 - 9.33.2.1	7-Apr-2023	1.1	General Inquiry, Global Broadcast from a Remote Network	Passed		
66	8.2.1	135.1-2019 - 9.33.2.2	28-Mar-2023	1	General Inquiry, Remote Broadcast	Passed		
67	8.2.1	BTL - 9.33.2.3	28-Mar-2023	1	General Inquiry, Directed to a Remote Device	Passed		
68	8.4.1	BTL - 9.32.1.1	21-Mar-2023	1	Object ID Version with No Device Range	Passed		
69	8.4.1	BTL - 9.32.1.2	21-Mar-2023	1	Object Name Version with no Device Range	Passed		
70	8.4.1	BTL - 9.32.1.3	28-Mar-2023	1	Object ID Version with IUT Inside of the Device Range	Passed		
71	8.4.1	BTL - 9.32.1.4	28-Mar-2023	1	Object ID Version with IUT Outside of the Device Range	Passed		
72	8.4.1	BTL - 9.32.1.5	28-Mar-2023	1	Object Name Version with IUT Inside of the Device Range	Passed		
73	8.4.1	135.1-2019 - 9.32.1.6	28-Mar-2023	1	Object Name Version with IUT Outside of the Device Range	Passed		
74	8.4.1	BTL - 9.32.1.7	28-Mar-2023	1	Object ID Version with IUT Device Instance Equal to the High Limit of the Device Range	Passed		
75	8.4.1	BTL - 9.32.1.8	28-Mar-2023	1	Object ID Version with IUT Device Instance Equal to the Low Limit of the Device Range	Passed		
76	8.4.1	BTL - 9.32.1.9	28-Mar-2023	1	Object Name Version with IUT Device Instance Equal to the High Limit of the Device Range	Passed		
77	8.4.1	BTL - 9.32.1.10	23-Mar-2023	1	Object Name Version with IUT Device Instance Equal to the Low Limit of the Device Range	Passed		
78	8.4.1	BTL - 9.32.1.11	28-Mar-2023	1	Object Name Version, Directed to a Specific MAC Address	Passed		
79	8.4.1	BTL - 9.32.2.1	21-Mar-2023	1	Object ID Version, Global Broadcast from a Remote Network	Passed		

80	8.4.1	BTL - 9.32.2.2	28-Mar-2023		1	Object ID Version, Remote Broadcast	Passed		
81	8.4.1	BTL - 9.32.1.12	21-Mar-2023		1	Who-Has After Object_Name Changed	Passed		
82	8.4.1	BTL - 9.32.1.13	21-Mar-2023		1	Who-Has After Object_Identifier Changed	Passed		
83	8.4.1	BTL - 9.32.2.X3	23-Mar-2023		1	Who-Has for Non-existent Object_Name	Passed		
84	8.4.1	BTL - 9.32.2.X5	10-Apr-2023		1.1	Who-Has for Non-existent Object_Identifier	Passed	Executed FAT	
85	8.14.1	BTL - 9.24.1.11	29-Mar-2023		1	Ensure that DISABLE option is not supported by IUT claiming PR >= 20	Passed		
86	8.14.2	BTL - 9.24.2.1	16-Mar-2023		1	Invalid Password	Passed		
87	8.14.2	BTL - 9.24.2.2	16-Mar-2023		1	Missing Password	Passed		
88	8.14.4	135.1-2019 - 9.24.1.3	23-Mar-2023		1	Finite Time Duration	Skipped(conditionality)	IUT supports PR 22,hence skipped	
89	8.14.4	135.1-2019 - 9.24.1.4	23-Mar-2023		1	Finite Time Duration Restored by DeviceCommunicationControl	Skipped(conditionality)	IUT supports PR 22,hence skipped	
90	8.14.4	135.1-2019 - 9.24.1.8	20-Mar-2023		1	Finite Time Duration, Disable Initiation	Passed		
91	8.14.5	135.1-2019 - 9.24.1.1	23-Mar-2023		1	Indefinite Time Duration Restored by DeviceCommunicationControl	Skipped(conditionality)	IUT supports PR 22,hence skipped	
92	8.14.5	135.1-2019 - 9.24.1.6	20-Mar-2023		1	Indefinite Time Duration, Disable-Initiation, Restored by DeviceCommunicationControl	Passed		
93	8.14.6	135.1-2019 - 9.24.1.2	29-Mar-2023		1	Indefinite Time Duration Restored by ReinitializeDevice	Skipped(conditionality)	IUT supports PR is 22,hence skipped	
94	8.14.6	BTL - 9.24.1.5	29-Mar-2023		1	Finite Time Duration Restored by ReinitializeDevice	Skipped(conditionality)	IUT supports PR is 22,hence skipped	
95	8.14.6	BTL - 9.24.2.3	29-Mar-2023		1	Restore by ReinitializeDevice with Invalid 'Reinitialized State of Device'	Skipped(conditionality)	IUT supports PR is 22,hence skipped	
96	8.14.6	135.1-2019 - 9.24.1.7	29-Mar-2023		1	Indefinite Time Duration, Disable-Initiation, Restored by ReinitializeDevice	Passed		
97	8.14.6	BTL - 9.24.1.12	29-Mar-2023		1	Disable of Service Initiation Restored by ReinitializeDevice	Passed		
98	8.14.7	135.1-2019 - 9.24.1.9	16-Mar-2023		1	Disable of Service Initiation Restored by Time Duration	Passed		
99	8.14.7	135.1-2019 - 9.24.1.10	16-Mar-2023		1	Disable of Service Initiation Restored by DeviceCommunicationControl	Passed		
100	8.16.1	BTL - 9.27.2.X	29-Mar-2023		1	Rejects Unsupported Reinitialize Types	Passed		
101	8.16.2	135.1-2019 - 9.27.1.4	16-Mar-2023		1	WARMSTART with a Correct Password	Passed		
102	8.16.2	BTL - 9.27.2.4	15-Mar-2023		1	WARMSTART with Missing or Invalid Password	Passed		
103	8.16.4	135.1-2019 - 9.27.1.2	16-Mar-2023		1	COLDSTART with a Correct Password	Passed		
104	8.16.4	BTL - 9.27.2.3	15-Mar-2023		1	COLDSTART with Missing or Invalid Password	Passed		
105	9.1.1	135.1-2019 - 12.1.1.9.6	27-Mar-2023		1	Max Info Frame Check	Passed		

106	9.1.1	135.1-2019 - 12.1.3.2	27-Mar-2023	1	Verify Tpostdrive	Passed	Executed on 38400,9600,19200,78600, 57600 and 115200 Baud Rate. Picoscope is the instrument used to measure the time duration. The uncertainty of the Picoscope is ± 11.50 . The time readings of the IUT, falls well within the range mentioned in the test standard, so we have not taken into consideration the Uncertainty of the Picoscope.
107	9.1.1	BTL - 12.1.3.3	27-Mar-2023	1	Verify Tframe_gap	Passed	Executed on 38400,9600,19200,78600, 57600 and 115200 Baud Rate. Picoscope is the instrument used to measure the time duration. The uncertainty of the Picoscope is ± 11.50 . The time readings of the IUT, falls well within the range mentioned in the test standard, so we have not taken into consideration the Uncertainty of the Picoscope.
108	9.1.1	135.1-2019 - 12.1.3.4	27-Mar-2023	1	Verify Tturnaround	Passed	Executed on 38400,9600,19200,78600, 57600 and 115200 Baud Rate. Picoscope is the instrument used to measure the time duration. The uncertainty of the Picoscope is ± 11.50 . The time readings of the IUT, falls well within the range mentioned in the test standard, so we have not taken into consideration the Uncertainty of the Picoscope.
109	9.1.1	135.1-2019 - 12.1.3.5	24-Mar-2023	1	Verify Treply_delay	Passed	
110	9.1.1	135.1-2019 - 12.1.3.6	24-Mar-2023	1	Verify Tusage_delay After a Token w/ Serial Analyzer	Passed	
111	9.1.1	135.1-2019 - 12.1.3.7	24-Mar-2023	1	Verify Tusage_delay After Poll For Master w/ Serial Analyzer	Passed	
112	9.1.1	135.1-2019 - 12.1.3.8	27-Mar-2023	1	Verify Npoll w/ Serial Analyzer	Passed	Executed on BR38400,9600,19200,78600, 0,57600 and 115200
113	9.1.1	135.1-2019 - 12.1.3.9	24-Mar-2023	1	Verify Tusage_timeout w/ Serial Analyzer	Passed	
114	9.1.1	135.1-2019 - 12.1.3.12	24-Mar-2023	1	Master Node Data Frame Test	Passed	
115	9.1.1	135.1-2019 - 12.1.3.13	28-Mar-2023	1	Poll for Master w/ Serial Analyzer	Passed	
116	9.1.1	135.1-2019 - 12.1.3.16	28-Mar-2023	1	MS/TP Network Startup Tests (IUT power on Variation)	Passed	
117	9.1.1	135.1-2019 - 12.1.3.17	28-Mar-2023	1	MS/TP Network Startup Tests (IUTs wire connected)	Passed	

118	9.1.1	135.1-2019 - 12.1.3.18	28-Mar-2023	1	MS/TP Network Startup Tests (IUTs wire disconnected)	Passed		
119	9.1.1	135.1-2019 - 12.1.3.19	30-Mar-2023	1	MS/TP Network Startup Tests (Reference device joins the MS/TP network)	Passed		
120	9.1.1	BTL - 2.2.X1	22-Mar-2023	1	Data Not For Us Test	Passed		
121	9.1.1	BTL - 7.3.2.X62.1.2	30-Mar-2023	1	Verify Network Configuration Through Network Port Object Test	Passed		
122	9.1.2	135.1-2019 - 12.1.3.10	22-Mar-2023	1	Max_Master Test	Passed		
123	9.1.4	135.1-2019 - 12.1.3.11	22-Mar-2023	1	Max_Info_Frames Test	Passed		
124	9.1.8	BTL - 7.3.2.X62.1.1	30-Mar-2023	1	Configure Network Through Network Port Object Test	Passed		
125	3.1.2	BTL - 7.3.1.1.X1	27-Mar-2023	1	Out_Of_Service, Status_Flags, and Reliability Test	Passed		
126	3.2.2	BTL - 7.3.1.1.X1	27-Mar-2023	1	Out_Of_Service, Status_Flags, and Reliability Test	Passed		
127	3.2.2	BTL - 7.3.1.1.X2	27-Mar-2023	1	Out_Of_Service for Commandable Value Objects Test	Skipped(conditionality)	Analog Value Object is not commandable, hence skipped	

Final Test Summary



Test Summary as on	11-Apr-2023
Tester	AA
Vendor	Dwyer Instruments, LLC
Product	Series RHPX
Software Version	0.9.9R
BACnet Profile	B-ASC
BACnet Protocol Revision	22
Application Number	TCS1348
Total Tests	127

Summary	Status		
Functionality	Passed	Skipped(conditionality)	Grand Total
Analog Input Object	1		1
Analog Value Object	1	1	2
Basic Functionality (applies to all BACnet devices)	17		17
Data Link Layer - MS/TP - Master Node	20		20
Data Sharing - ReadProperty - B	7	7	14
Data Sharing - WriteProperty - B	7	7	14
Device Management - Device Communication Control - B	9	6	15
Device Management - Dynamic Device Binding - B	9		9
Device Management - Dynamic Object Binding - B	17		17
Device Management - Reinitialize Device - B	5		5
Device Object	4	2	6
Multi-state Value Object	2		2
Network Port Object	4	1	5
Grand Total	103	24	127