

Certification No. 2221

This is to certify that the metering equipment identified as:

Type: VK305 Id=SM31_AMI_NI_H6X3X_VK.0.0_20190917 S=4215
 Id=SM31_AMI_NI_H6X3X_VK.0.0_20190917 S=4215
 Id=SM31_AMI_IS_H6X3X_VK.0.0_20180329 S=4215
Mgmt. SAP = 1 is "564B4531303330313132333435363738" (VKE1030112345678)
Manufactured by: Hangzhou Vango Technologies, Inc.

has successfully passed the DLMS/COSEM Conformance test, under the following conditions:

- CTT version: CTT 3.1 standard edition, 64bits, release 107
- Licensed to: 20161118_Jiangsu_Linyang_Energy_Co_Ltd_Qidong_China (2016/11/18)
- COSEM object definitions file version: Object_defs_v3.3_released_180601.dat
- Media identifier(s): Abstract, Electricity

Tests	Comm. profile & opening mode	Application contexts	Security features	Date and time	Test Result hash value
Test 1 RS485	HDLC, DIRECT_HDLC	LONG_NAMES, LONG_NAMES _WITH_ CIPHERING	SERVICE_SPECIFIC_ GLO_CIPHERING, SUITE_0 SECURITY_ACTIVATE KEY_TRANSFER	10-OCT-2019 16:58:11	D3F7475B4A9F1940BA61288007D57EE1A4 0B77742018AB76210022CDB2C46622
Test 2 optical	HDLC, MODE_E			10-OCT-2019 18:54:04	1B8A5127CB13729A5DE70C07B837829928 12DCCE39A0780D982D2137077FBCC7
Test 3 TCP	TCP			10-OCT-2019 20:19:06	50D5ADF99ACDF054B9B56942BDD537C4 89E3E2B9D94EFDCE20D3E5523225DEAC

The authenticity of the test report(s) has been verified by the DLMS User Association and the metering equipment identified above is listed on its web site at: www.dlms.com.

With this, the manufacturer is entitled to display the DLMS/COSEM Compliant mark – shown below – on its product duly identified and on its product literature.



The test reports are filed by the DLMS UA. Copies are available from the manufacturer.

This Certificate is only valid for the functions successfully tested; see the Summary. The test has been executed on one specimen of the product, as identified by the Management Logical Device Name reported. Results may not be applicable for other test specimens.

Date: Zug, the 24th October 2019

Gyöző Kmethy
President

Viktória Varjú Timárné
Certification Engineer

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Summary of features tested for Test 1

This section provides an overview of the features tested, aggregated over all logical devices and Application Associations in one test session. Full information is available in the Test Result.

```
*****  
* Identification *  
*****
```

```
Identification = {  
  Manufacturer = "\Hangzhou Vango Technologies,Inc."  
  FLAGid = "\VKE"  
  Type = "\VK305"  
  SerialNr = "\12345678"  
  Comment = "\Application Context:LN-  
Chiper,GMAC,Security,CommunicationProfile:HDLC,OpeningMode:DIRECT_HDLC"  
  Comment = "\Client ID:0x10,0x01"  
}
```

```
*****  
* Summary *  
*****
```

TYPE	TOTAL	SKIPPED	INAPPLICABLE	INCONCLUSIVE	PASSED	FAILED
----	-----	-----	-----	-----	-----	-----
HDLC	36	0	1	0	35	0
APPL	55	0	17	0	38	0
COSEM	1552	0	1	113	1438	0
SYMSEC	36	0	9	0	27	0
PUBSEC		All (No ciphered association with the required properties)				
DP	0	0	0	0	0	0
GBT		All (No association with the required properties)				

```
Communication profile:          HDLC  
  
Application context names:     LONG_NAMES, LONG_NAMES_WITH_CIPHERING  
  
Authentication mechanisms:    NO_SECURITY, HIGH_LEVEL_SECURITY_GMAC  
  
ACSE and xDLMS features:     ACTION, GET, MULTIPLE_REFERENCES  
                               SELECTIVE_ACCESS  
                               SERVICE_SPECIFIC_BLOCK_TRANSFER, SET  
  
Security features:            SERVICE_SPECIFIC_GLO_CIPHERING, SUITE_0  
                               SECURITY_ACTIVATE, KEY_TRANSFER  
  
Data protection features:     (not collected)  
  
Logical device(s) found:     SAP = 1 is "564B4531303330313132333435363738"  
(VKE1030112345678)  
  
Active firmware(s):          Id=SM31_AMI_NI_H6X3X_VK.0.0_20190917 S=4215  
                               Id=SM31_AMI_NI_H6X3X_VK.0.0_20190917 S=4215  
                               Id=SM31_AMI_IS_H6X3X_VK.0.0_20180329 S=4215  
  
COSEM classes tested:        1, 3, 4, 5, 6, 7(1), 8, 9, 11, 15(1), 17, 18, 19(1), 20  
                               21, 22, 23(1), 28(2), 29(2), 41, 42, 43, 44, 45, 64  
                               70, 71  
  
COSEM classes found but not tested: 47(2)
```

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Summary of features tested for Test 2

This section provides an overview of the features tested, aggregated over all logical devices and Application Associations in one test session. Full information is available in the Test Result.

```
*****
* Identification *
*****
```

```
Identification = {
  Manufacturer = "\Hangzhou Vango Technologies,Inc."
  FLAGid = "\VKE"
  Type = "\VK305"
  SerialNr = "\12345678"
  Comment = "\Application Context:LN-
Chiper,LLS,Security,CommunicationProfile:HDLC,OpeningMode:MODE_E"
  Comment = "\Client ID:0x10,0x01"
}
```

```
*****
* Summary *
*****
```

TYPE	TOTAL	SKIPPED	INAPPLICABLE	INCONCLUSIVE	PASSED	FAILED
----	-----	-----	-----	-----	-----	-----
HDLC		All (MODE_E)				
APPL	54	0	18	0	36	0
COSEM	1552	0	1	113	1438	0
SYMSEC	36	0	9	0	27	0
PUBSEC		All (No ciphered association with the required properties)				
DP	0	0	0	0	0	0
GBT		All (No association with the required properties)				

```
Communication profile:          HDLC

Application context names:     LONG_NAMES, LONG_NAMES_WITH_CIPHERING

Authentication mechanisms:    NO_SECURITY, LOW_LEVEL_SECURITY

ACSE and xDLMS features:      ACTION, GET, MULTIPLE_REFERENCES
                               SELECTIVE_ACCESS
                               SERVICE_SPECIFIC_BLOCK_TRANSFER, SET

Security features:            SERVICE_SPECIFIC_GLO_CIPHERING, SUITE_0
                               SECURITY_ACTIVATE, KEY_TRANSFER

Data protection features:      (not collected)

Logical device(s) found:      SAP = 1 is "564B4531303330313132333435363738"
                               (VKE1030112345678)

Active firmware(s):           Id=SM31_AMI_NI_H6X3X_VK.0.0_20190917 S=4215
                               Id=SM31_AMI_NI_H6X3X_VK.0.0_20190917 S=4215
                               Id=SM31_AMI_IS_H6X3X_VK.0.0_20180329 S=4215

COSEM classes tested:         1, 3, 4, 5, 6, 7 (1), 8, 9, 11, 15 (1), 17, 18, 19 (1), 20
                               21, 22, 23 (1), 28 (2), 29 (2), 41, 42, 43, 44, 45, 64
                               70, 71

COSEM classes found but not tested: 47 (2)
```

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Summary of features tested for Test 3

This section provides an overview of the features tested, aggregated over all logical devices and Application Associations in one test session. Full information is available in the Test Result.

```
*****
* Identification *
*****
```

```
Identification = {
  Manufacturer = "\Hangzhou Vango Technologies,Inc."
  FLAGid = "\VKE"
  Type = "\VK305"
  SerialNr = "\12345678"
  Comment = "\Application Context:LN-Chiper,GMAC,Security,CommunicationProfile:TCP"
  Comment = "\Client ID:0x10,0x01"
}
```

```
*****
* Summary *
*****
```

TYPE	TOTAL	SKIPPED	INAPPLICABLE	INCONCLUSIVE	PASSED	FAILED
----	-----	-----	-----	-----	-----	-----
HDLC		All(Communication profile not HDLC)				
APPL	55	0	16	0	39	0
COSEM	1552	0	1	113	1438	0
SYMSEC	36	0	9	0	27	0
PUBSEC		All (No ciphered association with the required properties)				
DP	0	0	0	0	0	0
GBT		All (No association with the required properties)				

```
Communication profile:          TCP

Application context names:      LONG_NAMES, LONG_NAMES_WITH_CIPHERING

Authentication mechanisms:     NO_SECURITY, HIGH_LEVEL_SECURITY_GMAC

ACSE and xDLMS features:      ACTION, GET, MULTIPLE_REFERENCES, RLRQ_RLRE
                               SELECTIVE_ACCESS
                               SERVICE_SPECIFIC_BLOCK_TRANSFER, SET

Security features:             SERVICE_SPECIFIC_GLO_CIPHERING, SUITE_0
                               SECURITY_ACTIVATE, KEY_TRANSFER

Data protection features:      (not collected)

Logical device(s) found:      SAP = 1 is "564B4531303330313132333435363738"
                               (VKE1030112345678)

Active firmware(s):           Id=SM31_AMI_NI_H6X3X_VK.0.0_20190917 S=4215
                               Id=SM31_AMI_NI_H6X3X_VK.0.0_20190917 S=4215
                               Id=SM31_AMI_IS_H6X3X_VK.0.0_20180329 S=4215

COSEM classes tested:         1, 3, 4, 5, 6, 7(1), 8, 9, 11, 15(1), 17, 18, 19(1), 20
                               21, 22, 23(1), 28(2), 29(2), 41, 42, 43, 44, 45, 64
                               70, 71

COSEM classes found but not tested:  47(2)
```