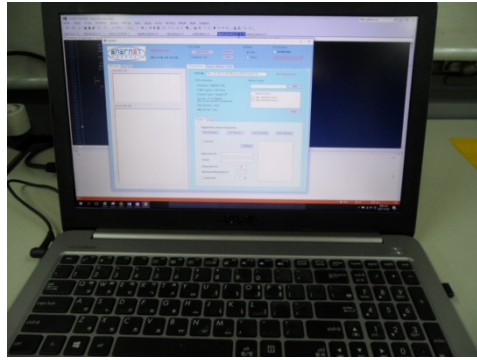

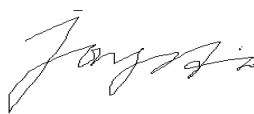


<b>Prüfbericht-Nr.:</b> <i>Test Report No.:</i>	<b>50106299 001</b>	<b>Auftrags-Nr.:</b> <i>Order No.:</i>	133052817	Seite 1 von 9 <i>Page 1 of 9</i>	
<b>Kunden-Referenz-Nr.:</b> <i>Client Reference No.:</i>	623467	<b>Auftragsdatum:</b> <i>Order date:</i>	12.Oct.2017		
<b>Auftraggeber:</b> <i>Client:</i>	ENERNET 1007 B dong, 70, Dusan-ro, Geumcheon-gu, Seoul Korea				
<b>Prüfgegenstand:</b> <i>Test item:</i>	2.0b / VEN / PULL				
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type No.:</i>	ENERNET				
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	OpenADR Certification Testing				
<b>Prüfgrundlage:</b> <i>Test specification:</i>	OpenADR 2.0b Certification Test Specification v1.1.0				
<b>Wareneingangsdatum:</b> <i>Date of receipt:</i>	04.Dec.2017				
<b>Prüfmuster-Nr.:</b> <i>Test sample No.:</i>	A000663683				
<b>Prüfzeitraum:</b> <i>Testing period:</i>	04.Dec.2017 ~06.Dec.2017				
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	TÜV Rheinland Korea Ltd.				
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TÜV Rheinland Korea Ltd.				
<b>Prüfergebnis*:</b> <i>Test result*:</i>	<b>Pass</b>				
<b>geprüft von / tested by:</b>		<b>kontrolliert von / reviewed by:</b>			
 07.Dec.2017    Young-Ju Yoon/Proj.Engineer		 07.Dec.2017    Jong-Shik Her /Proj.Manager			
<b>Datum</b>	<b>Name / Stellung</b>	<b>Unterschrift</b>	<b>Datum</b>	<b>Name / Stellung</b>	<b>Unterschrift</b>
<i>Date</i>	<i>Name / Position</i>	<i>Signature</i>	<i>Date</i>	<i>Name / Position</i>	<i>Signature</i>
<b>Sonstiges / Other:</b>					
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut    2 = gut    3 = befriedigend    4 = ausreichend    5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n)    F(ail) = entspricht nicht o.g. Prüfgrundlage(n)    N/A = nicht anwendbar    N/T = nicht getestet <i>Legend: 1 = very good    2 = good    3 = satisfactory    4 = sufficient    5 = poor</i> P(ass) = passed a.m. test specification(s)    F(ail) = failed a.m. test specification(s)    N/A = not applicable    N/T = not tested					
<b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht a uszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not per mitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>					

v04

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## 1. General Product Information

### 1.1 General SUT Information

Order number: 133052817  
Hardware version: N/A  
Firmware version: v1.0

### 1.2 General EUT Description

Equipment under test: see page 1

### 1.3 Type of Product

Product type: VEN  
OpenADR profile: 2.0b  
Mode: Pull  
Transport: Simple HTTP  
Security: Standard

## 2. Testing Laboratory

Company name: TÜV Rheinland Korea Ltd.

Address: E & C Venture Dream Tower 6, 197-28, Guro-dong, Guro-gu  
Seoul, 152-719, Korea

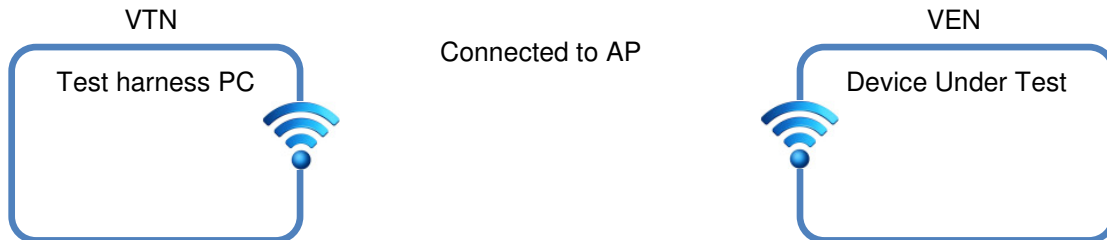
### 2.1 Test Equipment

Instrument	Manufacturer	Model Number	Version/Errata
Test tool	QualityLogic	OpenADR2.0bCertTest	1.1.0

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## 2.2 Test Setup



## 3. Information about Test Results

### 3.1 General

#### Documentation of tested devices and results:

The complete set of measurement results is stored at the TÜV Rheinland Korea Ltd. test laboratory and is available on demand.

#### Interpretation of test results:

The results of the inspection are described on the following pages. "Pass" in the summary list of this test report means the performed tests according to the test specification were verified and that the tested device is conformant to the specifications.

## 4. Test Results

### 4.1 VEN Pull Tests

#### 4.1.1 EiRegisterParty Service

No.	Test Cass	Date	Result	Log
1	N1_0010_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_142600_944.txt</a>
2	N1_0015_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_143054_057.txt</a>
3	N1_0020_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_141600_462.txt</a>
4	N1_0025_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_142902_754.txt</a>
5	N1_0030_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_144122_079.txt</a>
6	N1_0040_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_150503_662.txt</a>
7	N1_0050_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_144958_978.txt</a>
8	N1_0060_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_150110_199.txt</a>
9	N1_0065_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_145134_696.txt</a>
10	N1_0070_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_144425_746.txt</a>
11	N1_0080_TH_VTN_1	Dec / 04 / 2017	NA	<a href="#">View Log TraceLog_120417_144255_811.txt</a>

#### 4.1.2 EiOpt Service

No.	Test Cass	Date	Result	Log
1	P1_2010_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_152412_921.txt</a>
2	P1_2015_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_152614_452.txt</a>
3	P1_2020_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_152742_599.txt</a>
4	P1_2030_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_152853_886.txt</a>
5	P1_2040_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_153048_591.txt</a>
6	P1_2050_TH_VTN_1	Dec / 04 / 2017	NA	<a href="#">View Log TraceLog_120417_153237_869.txt</a>

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#### 4.1.3 EiReport Service

No.	Test Cass	Date	Result	Log
1	R1_3020_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_153748_956.txt</a>
2	R1_3025_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_154350_924.txt</a>
3	R1_3027_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_154647_054.txt</a>
4	R1_3030_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_155123_094.txt</a>
5	R1_3040_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_163906_718.txt</a>
6	R1_3045_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_164040_542.txt</a>
7	R1_3150_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_164219_146.txt</a>
8	R1_3160_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_164326_516.txt</a>
9	R1_3170_TH_VTN_1	Dec / 06 / 2017	PASS	<a href="#">View Log TraceLog_120617_154023_382.txt</a>
10	R1_3180_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_173536_040.txt</a>
11	R1_3190_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_173752_359.txt</a>
12	R1_3020_TH_VTN_1	Dec / 04 / 2017	PASS	<a href="#">View Log TraceLog_120417_153748_956.txt</a>

#### 4.1.4 EiEvent Service

No.	Test Cass	Date	Result	Log
1	E1_1010_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_110626_896.txt</a>
2	E1_1020_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_110747_027.txt</a>
3	E1_1025_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_111432_788.txt</a>
4	E1_1027_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_111816_903.txt</a>
5	E1_1030_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_112336_145.txt</a>
6	E1_1040_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_112533_251.txt</a>
7	E1_1050_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_132846_175.txt</a>
8	E1_1055_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_113348_479.txt</a>
9	E1_1060_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_113703_829.txt</a>
10	E1_1065_TH_VTN_1	Dec / 05 / 2017	NA	<a href="#">View Log TraceLog_120517_113854_587.txt</a>
11	E1_1070_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_113922_260.txt</a>
12	E1_1080_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_114411_871.txt</a>
13	E1_1090_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_114843_686.txt</a>

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#### 4.1.5 EiEvent Ported A Profile

No.	Test Cass	Date	Result	Log
1	A_E1_0020_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_133301_614.txt
2	A_E1_0040_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_133551_183.txt
3	A_E1_0060_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_133753_166.txt
4	A_E1_0070_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_134126_198.txt
5	A_E1_0082_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_134422_724.txt
6	A_E1_0086_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_134623_820.txt
7	A_E1_0090_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_134759_322.txt
8	A_E1_0092_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_134931_930.txt
9	A_E1_0094_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_135054_272.txt
10	A_E1_0096_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_135212_407.txt
11	A_E1_0098_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_135521_740.txt
12	A_E1_0100_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_135642_831.txt
13	A_E1_0102_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_135757_786.txt
14	A_E1_0104_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_135927_129.txt
15	A_E1_0110_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_140053_377.txt
16	A_E1_0130_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_140153_383.txt
17	A_E1_0180_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_140312_178.txt
18	A_E1_0190_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_140428_599.txt
19	A_E1_0200_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_140558_580.txt
20	A_E1_0210_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_140743_375.txt
21	A_E1_0220_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_141208_385.txt
22	A_E1_0230_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_141539_896.txt
23	A_E1_0240_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_142150_549.txt
24	A_E1_0250_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_142436_604.txt
25	A_E1_0260_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_142936_493.txt
26	A_E1_0262_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_143825_945.txt
27	A_E1_0267_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_145755_055.txt
28	A_E1_0268_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_151724_335.txt
29	A_E1_0270_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_153042_472.txt
30	A_E1_0280_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_153304_231.txt
31	A_E1_0285_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_153541_484.txt
32	A_E1_0300_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_153700_071.txt
33	A_E1_0310_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_153946_075.txt
34	A_E1_0340_TH_VTN_1	Dec / 05 / 2017	PASS	View Log TraceLog_120517_154121_143.txt

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35	A_E1_0345_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_160814_281.txt</a>
36	A_E1_0360_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_160923_217.txt</a>
37	A_E1_0370_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_161132_910.txt</a>
38	A_E1_0390_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_161425_649.txt</a>
39	A_E1_0392_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_161545_430.txt</a>

**4.1.6 General Tests**

No.	Test Cass	Date	Result	Log
1	G1_4005_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_164824_379.txt</a>
2	G1_4007_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_165335_488.txt</a>
3	G1_4011_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_162951_748.txt</a>
4	G1_4012_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_163158_399.txt</a>
5	G1_4015_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_163334_282.txt</a>
6	G1_4030_TH_VTN_1	Dec / 05 / 2017	PASS	<a href="#">View Log TraceLog_120517_164259_289.txt</a>



## Appendix A: Remarks and References

Log files for the executed test cases are provided in the electronic format.

List of all executed tests with links to the log files is located in the "logfile.xml" which could be opened in any web-browser.

## Appendix B: Photos

**Photo 1: Test harness PC**



**Photo 2: Test Device**

