

<b>Prüfbericht-Nr.:</b> <i>Test Report No.:</i>	<b>50052736 001</b>	<b>Auftrags-Nr.:</b> <i>Order No.:</i>	133047037	Seite 1 von 9 <i>Page 1 of 9</i>
<b>Kunden-Referenz-Nr.:</b> <i>Client Reference No.:</i>	N/A	<b>Auftragsdatum:</b> <i>Order date:</i>	12.Aug.2016	
<b>Auftraggeber:</b> <i>Client:</i>	Gridwiz Inc. 4F 1010Bldg, 25, Sanun-ro 208beon-gil, Bundang-gu, Seongnam-si, Gyenggi, 13460, Korea			
<b>Prüfgegenstand:</b> <i>Test item:</i>	2.0b / VEN / PULL			
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type No.:</i>	Gridwiz Power Management System			
<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>	11.Aug.2016			
<b>Prüfmuster-Nr.:</b> <i>Test sample No.:</i>	A000408350			
<b>Prüfzeitraum:</b> <i>Testing period:</i>	11.Aug.2016 ~ 11.Aug.2016			
<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>	Pass			
<b>geprüft von / tested by:</b>		<b>kontrolliert von / reviewed by:</b>		
12.Aug.2016	Young-Ju Yoon/Proj.Engineer	18.Aug.2016	Jong-Shik Her/Proj.Manager	
<b>Datum</b> <i>Date</i>	<b>Name / Stellung</b> <i>Name / Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Datum</b> <i>Date</i>	<b>Name / Stellung</b> <i>Name / Position</i>
				<b>Unterschrift</b> <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>		
<p>* 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</p>				
<p><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></p>				

v04

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## 1. General Product Information

### 1.1 General SUT Information

Order number: 133047037  
Hardware version: 4320A0  
Firmware version: V2.2

### 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

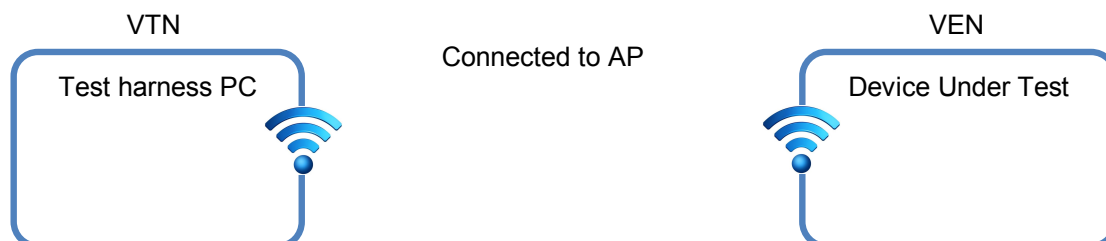
### 2.1 Test Equipment

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 Case	Date	Result	Log
1	N1_0010_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_103811_928.txt
2	N1_0015_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_103502_253.txt
3	N1_0020_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_102941_066.txt
4	N1_0025_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_103957_113.txt
5	N1_0030_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_103637_546.txt
6	N1_0040_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_104421_774.txt
7	N1_0050_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_103145_190.txt
8	N1_0060_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_103327_349.txt
9	N1_0065_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_104112_426.txt
10	N1_0070_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_104222_343.txt
11	N1_0080_TH_VTN_1	Aug / 11 / 2016	NA	View Log TraceLog_081116_104332_176.txt

#### 4.1.2 EiOpt Service

No.	Test Case	Date	Result	Log
1	P1_2010_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_165740_280.txt
2	P1_2015_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_165900_866.txt
3	P1_2020_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_170415_477.txt
4	P1_2030_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_170527_021.txt
5	P1_2040_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_170707_244.txt
6	P1_2050_TH_VTN_1	Aug / 11 / 2016	NA	View Log TraceLog_081116_170840_031.txt

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#### 4.1.3 EiReport Service

No.	Test Case	Date	Result	Log
1	R1_3010_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_171113_901.txt
2	R1_3020_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_171220_098.txt
3	R1_3025_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_171740_621.txt
4	R1_3027_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_172218_739.txt
5	R1_3030_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_172839_702.txt
6	R1_3040_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_173153_344.txt
7	R1_3045_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_173318_879.txt
8	R1_3150_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_173824_491.txt
9	R1_3160_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_174029_110.txt
10	R1_3170_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_174353_816.txt
11	R1_3180_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_174726_238.txt
12	R1_3190_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_174905_553.txt

#### 4.1.4 EiEvent Service

No.	Test Case	Date	Result	Log
1	E1_1010_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_163958_401.txt
2	E1_1020_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_164134_975.txt
3	E1_1025_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_164233_851.txt
4	E1_1027_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_164326_538.txt
5	E1_1030_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_164459_437.txt
6	E1_1040_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_164603_426.txt
7	E1_1050_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_164818_765.txt
8	E1_1055_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_164944_827.txt
9	E1_1060_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_165101_394.txt
10	E1_1065_TH_VTN_1	Aug / 11 / 2016	NA	View Log TraceLog_081116_165243_591.txt
11	E1_1070_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_165314_995.txt
12	E1_1080_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_165426_026.txt
13	E1_1090_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_165533_567.txt

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#### 4.1.5 EiEvent Ported A Profile

No.	Test Case	Date	Result	Log
1	A_E1_0020_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_133124_853.txt
2	A_E1_0040_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_133243_705.txt
3	A_E1_0060_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_133433_786.txt
4	A_E1_0070_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_133529_574.txt
5	A_E1_0082_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_133705_333.txt
6	A_E1_0086_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_133822_105.txt
7	A_E1_0090_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_133937_921.txt
8	A_E1_0092_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_134042_099.txt
9	A_E1_0094_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_134249_858.txt
10	A_E1_0096_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_134454_768.txt
11	A_E1_0098_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_134620_831.txt
12	A_E1_0100_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_134824_454.txt
13	A_E1_0102_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_135054_930.txt
14	A_E1_0104_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_135224_436.txt
15	A_E1_0110_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_135624_205.txt
16	A_E1_0130_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_135808_623.txt
17	A_E1_0180_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_140002_221.txt
18	A_E1_0190_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_140330_831.txt
19	A_E1_0200_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_141801_621.txt
20	A_E1_0210_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_141920_096.txt
21	A_E1_0220_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_142358_904.txt
22	A_E1_0230_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_143042_376.txt
23	A_E1_0240_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_143727_674.txt
24	A_E1_0250_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_144305_951.txt
25	A_E1_0260_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_112346_946.txt
26	A_E1_0262_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_145745_726.txt
27	A_E1_0267_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_151102_321.txt
28	A_E1_0268_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_152256_975.txt
29	A_E1_0270_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_155017_347.txt
30	A_E1_0280_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_160746_043.txt
31	A_E1_0285_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_161327_191.txt
32	A_E1_0300_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_161509_427.txt
33	A_E1_0310_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_161652_437.txt
34	A_E1_0340_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_162143_540.txt

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35	A_E1_0345_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_162353_130.txt
36	A_E1_0360_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_162713_128.txt
37	A_E1_0370_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_161113_062.txt
38	A_E1_0390_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_162812_085.txt
39	A_E1_0392_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_162947_798.txt

#### 4.1.6 General Tests

No.	Test Case	Date	Result	Log
1	G1_4005_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_105605_146.txt
2	G1_4007_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_132755_463.txt
3	G1_4011_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_111419_592.txt
4	G1_4012_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_111606_038.txt
5	G1_4015_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_110947_414.txt
6	G1_4030_TH_VTN_1	Aug / 11 / 2016	PASS	View Log TraceLog_081116_111807_875.txt



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## 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**

