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|---|---|---|---|------------------------------|
| Prüfbericht-Nr.: <i>Test report no.:</i> | 60428157 001 | Auftrags-Nr.: <i>Order no.:</i> | 156134217 | Seite 1 von 9 Page 1 of 9 |
| Kunden-Referenz-Nr.: <i>Client reference no.:</i> | 1623771 | Auftragsdatum: <i>Order date:</i> | 2020-11-27 | |
| Auftraggeber: <i>Client:</i> | LG Electronics Inc. LG Twin Tower, 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, 07336, Republic of Korea | | | |
| Prüfgegenstand: <i>Test item:</i> | Cloud | | | |
| Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i> | Cloud | | | |
| Auftrags-Inhalt: <i>Order content:</i> | OpenADR Certification Testing | | | |
| Prüfgrundlage: <i>Test specification:</i> | OpenADR 2.0b Test Specification v1.1.5 | | | |
| Wareneingangsdatum: <i>Date of sample receipt:</i> | 2020-11-18 |  | | |
| Prüfmuster-Nr.: <i>Test sample no.:</i> | A002959023 | | | |
| Prüfzeitraum: <i>Testing period:</i> | 2020-11-18 | | | |
| Ort der Prüfung: <i>Place of testing:</i> | TUV Rheinland Korea Ltd. | | | |
| Prüflaboratorium: <i>Testing laboratory:</i> | TUV Rheinland Korea Ltd. | | | |
| Prüfergebnis*: <i>Test result*:</i> | Pass | | | |
| geprüft von: <i>tested by:</i> | YoungJu Yoon | | | |
| Datum: <i>Date:</i> | 2020-12-02 | | Ausstellungsdatum: <i>Issue date:</i> | 2020-12-03 |
| Stellung / Position: | Project Engineer | | Stellung / Position: | Project Reviewer |
| Sonstiges / <i>Other:</i> | | | | |
| Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i> | Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i> | | | |
| * Legende: | P(ass) = entspricht o.g. Prüfgrundlage(n) | F(ail) = entspricht nicht o.g. Prüfgrundlage(n) | N/A = nicht anwendbar | N/T = nicht getestet |
| * Legend: | 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>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p> | | | | |

v05

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1. Testing Laboratory

1.1 ATL information

| | |
|---------------------|--|
| NAME: | TÜV RHEINLAND KOREA LTD. |
| Address | 2F, Young City, N-Tower, 25, Mullaero, 28-gil, Yeongdeungpo-gu |
| City: | Seoul |
| Postal code: | 07298 |
| Country: | South Korea |
| Telephone: | +82 2 860 9860 |
| Fax: | +82 2 860 9861 |
| URL: | http://www.kor.tuv.com |
| E-mail: | Info@kor.tuv.com |

1.2 Test Equipment

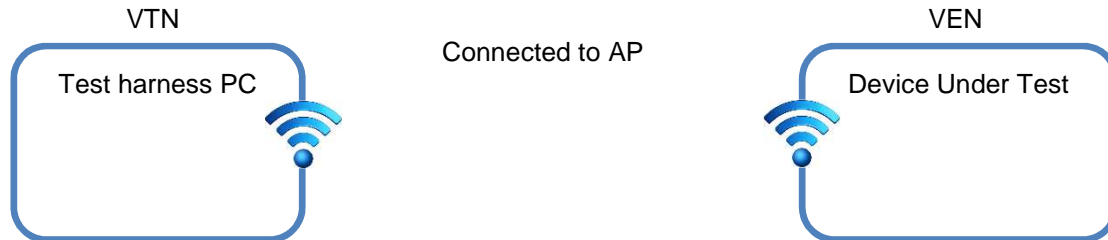
| GTEM | Instrument | Manufacturer | Model Number | Version/Errata |
|---------|------------|--------------|---------------------|----------------|
| 1806727 | Test tool | QualityLogic | OpenADR2.0bCertTest | 1.1.5 |

2. General Product Information

2.1 DUT information

| | |
|-------------------------|-------------|
| PRODUCT NAME: | Cloud |
| HW version: | N/A |
| SW version: | V1.0.0 |
| Product type: | VEN |
| OpenADR profile: | 2.0b |
| Test Mode: | Pull |
| Transport: | Simple HTTP |
| Security: | Standard |

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 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_092700_591.txt |
| 2 | N1_0015_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_093223_863.txt |
| 3 | N1_0020_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_090837_745.txt |
| 4 | N1_0025_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_091656_114.txt |
| 5 | N1_0030_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_092028_220.txt |
| 6 | N1_0040_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_092601_272.txt |
| 7 | N1_0050_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_091919_598.txt |
| 8 | N1_0060_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_091215_203.txt |
| 9 | N1_0065_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_092428_162.txt |
| 10 | N1_0070_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_093326_209.txt |
| 11 | N1_0080_TH_VTN_1 | Nov / 18 / 2020 | NA | View Log TraceLog_111820_092215_740.txt |

4.2.2 EiOpt Service

| No. | Test Cass | Date | Result | Log |
|-----|------------------|-----------------|--------|---|
| 1 | P1_2010_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_093603_353.txt |
| 2 | P1_2015_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_093653_716.txt |
| 3 | P1_2020_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_093734_091.txt |
| 4 | P1_2030_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_093821_902.txt |
| 5 | P1_2040_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_093906_295.txt |
| 6 | P1_2050_TH_VTN_1 | Nov / 18 / 2020 | NA | View Log TraceLog_111820_093952_515.txt |

4.2.3 EiReport Service

| No. | Test Cass | Date | Result | Log |
|-----|------------------|-----------------|--------|---|
| 1 | R1_3010_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_094042_686.txt |
| 2 | R1_3020_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_094155_843.txt |
| 3 | R1_3025_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_094446_136.txt |
| 4 | R1_3027_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_094802_541.txt |
| 5 | R1_3030_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_095239_167.txt |
| 6 | R1_3040_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_095539_150.txt |
| 7 | R1_3045_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_095726_579.txt |



| | | | | |
|----|------------------|-----------------|------|---|
| 8 | R1_3050_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_095941_693.txt |
| 9 | R1_3130_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_100145_393.txt |
| 10 | R1_3150_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_100300_942.txt |
| 11 | R1_3160_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_100458_902.txt |
| 12 | R1_3170_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_102708_133.txt |
| 13 | R1_3180_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_102924_636.txt |
| 14 | R1_3190_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_103118_547.txt |

4.2.4 EiEvent Service

| No. | Test Cass | Date | Result | Log |
|-----|------------------|-----------------|--------|---|
| 1 | E1_1010_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_103242_732.txt |
| 2 | E1_1020_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_103918_510.txt |
| 3 | E1_1025_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_104802_750.txt |
| 4 | E1_1027_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_105004_594.txt |
| 5 | E1_1030_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_105105_667.txt |
| 6 | E1_1040_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_105231_614.txt |
| 7 | E1_1050_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_105347_895.txt |
| 8 | E1_1055_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_105447_163.txt |
| 9 | E1_1060_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_111231_815.txt |
| 10 | E1_1065_TH_VTN_1 | Nov / 18 / 2020 | NA | View Log TraceLog_111820_111326_722.txt |
| 11 | E1_1070_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_112227_882.txt |
| 12 | E1_1080_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_112514_097.txt |
| 13 | E1_1090_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_112613_810.txt |

4.2.5 EiEvent Ported A Profile

| No. | Test Cass | Date | Result | Log |
|-----|--------------------|-----------------|--------|---|
| 1 | A_E1_0020_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_131933_649.txt |
| 2 | A_E1_0040_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_132102_405.txt |
| 3 | A_E1_0060_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_132428_946.txt |
| 4 | A_E1_0070_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_132520_742.txt |
| 5 | A_E1_0082_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_132625_156.txt |
| 6 | A_E1_0086_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_132739_199.txt |
| 7 | A_E1_0090_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_132850_030.txt |
| 8 | A_E1_0092_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_133004_657.txt |
| 9 | A_E1_0094_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_133129_247.txt |
| 10 | A_E1_0096_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_133217_729.txt |
| 11 | A_E1_0098_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_133348_324.txt |
| 12 | A_E1_0100_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_133503_437.txt |



| | | | | |
|----|--------------------|-----------------|------|---|
| 13 | A_E1_0102_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_133552_714.txt |
| 14 | A_E1_0104_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_133645_853.txt |
| 15 | A_E1_0110_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_133742_549.txt |
| 16 | A_E1_0130_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_133830_659.txt |
| 17 | A_E1_0180_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_133929_112.txt |
| 18 | A_E1_0190_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_134050_473.txt |
| 19 | A_E1_0200_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_135003_721.txt |
| 20 | A_E1_0210_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_140546_297.txt |
| 21 | A_E1_0220_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_141138_050.txt |
| 22 | A_E1_0230_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_141630_486.txt |
| 23 | A_E1_0240_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_142556_443.txt |
| 24 | A_E1_0250_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_143305_459.txt |
| 25 | A_E1_0260_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_144024_803.txt |
| 26 | A_E1_0262_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_144601_484.txt |
| 27 | A_E1_0267_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_150059_501.txt |
| 28 | A_E1_0268_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_151255_588.txt |
| 29 | A_E1_0270_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_152353_996.txt |
| 30 | A_E1_0280_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_152947_774.txt |
| 31 | A_E1_0285_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_153338_361.txt |
| 32 | A_E1_0300_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_153818_647.txt |
| 33 | A_E1_0310_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_153900_741.txt |
| 34 | A_E1_0340_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_154033_455.txt |
| 35 | A_E1_0345_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_154134_552.txt |
| 36 | A_E1_0360_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_154229_944.txt |
| 37 | A_E1_0370_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_153145_534.txt |
| 38 | A_E1_0390_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_154315_840.txt |
| 39 | A_E1_0392_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_154432_022.txt |

4.2.6 General Tests

| No. | Test Cass | Date | Result | Log |
|-----|------------------|-----------------|--------|---|
| 1 | G1_4005_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_155306_271.txt |
| 2 | G1_4007_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_162456_466.txt |
| 3 | G1_4010_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_155512_615.txt |
| 4 | G1_4011_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_161033_778.txt |
| 5 | G1_4012_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_161457_256.txt |
| 6 | G1_4015_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_162211_811.txt |
| 7 | G1_4030_TH_VTN_1 | Nov / 18 / 2020 | PASS | View Log TraceLog_111820_162325_468.txt |

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

Test harness PC



Test Device

