

Produkte  
Products

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                              |                                                                                                                                                            |                                   |                                              |                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Prüfbericht - Nr.: 14045184 001</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                              |                                                                                                                                                            | <b>Seite 1 von 10</b>             |                                              |                                                                                       |
| <i>Test Report No.:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                              |                                                                                                                                                            | <i>Page 1 of 10</i>               |                                              |                                                                                       |
| <b>Auftraggeber:</b><br><i>Client:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                              | ALDI Sourcing Asia Limited<br>Suite 2501, Tower 1<br>The Gateway, Harbour City<br>Kowloon, Hong Kong                                                       |                                   |                                              |                                                                                       |
| <b>Gegenstand der Prüfung:</b><br><i>Test Item:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              | Short Range Device - 434MHz Receiver                                                                                                                       |                                   |                                              |                                                                                       |
| <b>Bezeichnung:</b><br><i>Identification:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 93716                                        | <b>Serien-Nr.:</b><br><i>Serial No.:</i>                                                                                                                   | Engineering sample                |                                              |                                                                                       |
| <b>Wareneingangs-Nr.:</b><br><i>Receipt No.:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                               | A000357609-005                               | <b>Eingangsdatum:</b><br><i>Date of Receipt:</i>                                                                                                           | 10.05.2016                        |                                              |                                                                                       |
| <b>Zustand des Prüfgegenstandes bei Anlieferung:</b><br><i>Condition of test item at delivery:</i>                                                                                                                                                                                                                                                                                                                                                                                             |                                              | Test sample(s) is/are not damaged and suitable for testing.                                                                                                |                                   |                                              |                                                                                       |
| <b>Prüfört:</b><br><i>Testing Location:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                              | Hong Kong Productivity Council<br>HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong                                                                    |                                   |                                              |                                                                                       |
| <b>Prüfgrundlage:</b><br><i>Test Specification:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              | FCC Part 15 Subpart B<br>ANSI C63.4-2014                                                                                                                   |                                   |                                              |                                                                                       |
| <b>Prüfergebnis:</b><br><i>Test Results:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              | Das vorstehend beschriebene Gerät wurde geprüft und entspricht oben genannter Prüfgrundlage.<br>The above mentioned product was tested and <b>passed</b> . |                                   |                                              |                                                                                       |
| <b>Prüflaboratorium:</b><br><i>Testing Laboratory:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                              | TÜV Rheinland Hong Kong Ltd.<br>8 - 10/F., Goldin Financial Global Square, 7 Wang Tai Road, Kowloon Bay, Kowloon, Hong Kong                                |                                   |                                              |                                                                                       |
| <b>geprüft/ tested by:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                              |                                                                                                                                                            | <b>kontrolliert/ reviewed by:</b> |                                              |                                                                                       |
| 25.07.2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Hugo Wan<br>Senior Project Manager           |                                                                         | 25.07.2016                        | Sharon Li<br>Department Manager              |  |
| <b>Datum</b><br><i>Date</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Name/Stellung</b><br><i>Name/Position</i> | <b>Unterschrift</b><br><i>Signature</i>                                                                                                                    | <b>Datum</b><br><i>Date</i>       | <b>Name/Stellung</b><br><i>Name/Position</i> | <b>Unterschrift</b><br><i>Signature</i>                                               |
| <b>Sonstiges:</b><br>Other Aspects                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                              | FCC ID: 2AEWF00093716V                                                                                                                                     |                                   |                                              |                                                                                       |
| <b>Abkürzungen:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              | <b>Abbreviations:</b>                                                                                                                                      |                                   |                                              |                                                                                       |
| P(ass) = entspricht Prüfgrundlage                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                              | P(ass) = passed                                                                                                                                            |                                   |                                              |                                                                                       |
| F(all) = entspricht nicht Prüfgrundlage                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                              | F(all) = failed                                                                                                                                            |                                   |                                              |                                                                                       |
| N/A = nicht anwendbar                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                              | N/A = not applicable                                                                                                                                       |                                   |                                              |                                                                                       |
| N/T = nicht getestet                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                              | N/T = not tested                                                                                                                                           |                                   |                                              |                                                                                       |
| <p><b>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.</b></p> <p><i>This test report 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 safety mark on this or similar products.</i></p> |                                              |                                                                                                                                                            |                                   |                                              |                                                                                       |

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## Test Summary

### Conducted Emissions

*Result: Pass*

### Radiated Emissions

*Result: Pass*

## Product information

### Manufacturers declarations

|                                         | Receiver                                                              |
|-----------------------------------------|-----------------------------------------------------------------------|
| Operating frequency range               | 434 MHz                                                               |
| Number of channels                      | 1                                                                     |
| Type of antenna                         | Integral Antenna                                                      |
| Connection to public utility power line | Yes                                                                   |
| Nominal voltage                         | V <sub>nom</sub> : 3.0VDC (2 x 1.5V "AAA" battery) and/ or 100-240VAC |

### Product function and intended use

The equipment under test (EUT) is a receiver operating at 434MHz. And it is powered by 3.0VDC (2 x 1.5V "AAA" battery) and/ or 100-240VAC.

The EUT receiver has two housing colors: black and white. The EUT of two colors are totally identical including schematics, PCB layouts and components used except the housing color only.

### FCC ID: 2AEWF00093716V

| Models | Product description |
|--------|---------------------|
| 93716  | Weather Station     |

### Submitted documents

Circuit Diagram  
Block Diagram  
Bill of material  
User manual  
Rating Label

### Independent Operation Modes

The basic operation modes are:

- Receiving mode .

For further information refer to User Manual

### Related Submittal(s) Grants

This is a single application for certification of the receiver. The FCC ID of the corresponding transmitter is 2AEWF00093716S.

### Remark

- None.

## Test Set-up and Operation Mode

### Principle of Configuration Selection

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

### Test Operation and Test Software

Test operation should refer to test methodology.

- No testing software is provided by the applicant.

### Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

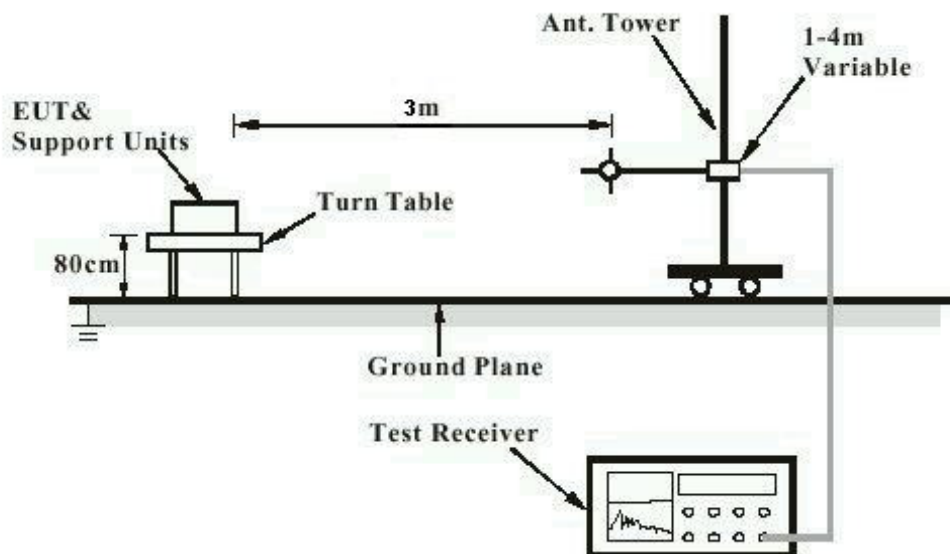
- AC/DC adaptor, Model: 6301-US-A, Input: 100-240VAC 50/60Hz, Output 5.0VDC 1000mA.
- 5ohm resistive load.

### Countermeasures to achieve EMC Compliance

- none

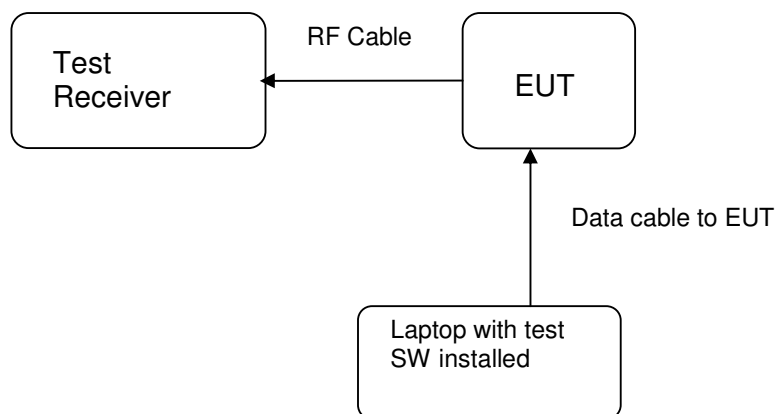
## Test Setup Diagram

### Diagram of Measurement Configuration for Radiated Emission Test

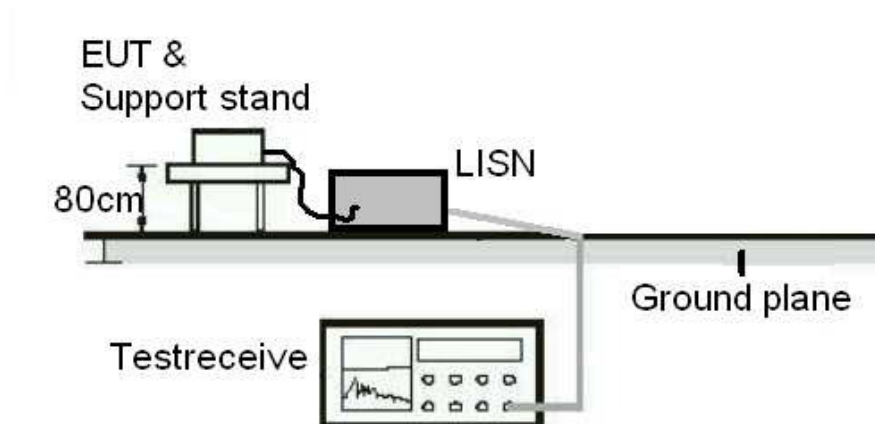


Note: For measurements above 1 GHz, there is RF absorbing material on the floor of the test site for above 1GHz measurement.

### Diagram of Measurement Configuration for Conducted RF Test



**Diagram of Measurement Equipment Configuration for AC Mains Conducted Emission Test (if applicable)**



## List of Test and Measurement Instruments

**Hong Kong Productivity Council (Registration number: 90656)**

### Radiated Emission

| Equipment                                  | Manufacturer | Type         | Cal. date   | Cal. Due date |
|--------------------------------------------|--------------|--------------|-------------|---------------|
| Semi-anechoic Chamber                      | Frankonia    | Nil          | 25 Apr 2016 | 25 Apr 2017   |
| Cable                                      | Hubersuhner  | SUCOFLEX 104 | 31 Mar 2016 | 31 Mar 2018   |
| Test Receiver                              | R & S        | ESU40        | 07 Dec 2015 | 07 Dec 2016   |
| Bi-conical Antenna                         | R & S        | HK116        | 01 Sep 2015 | 01 Sep 2017   |
| Log Periodic Antenna                       | R & S        | HL223        | 01 Sep 2015 | 01 Sep 2017   |
| Coaxial cable                              | Harbour      | LL335        | 10 Jun 2014 | 10 Aug 2016   |
| Microwave amplifier 0.5-26.5GHz, 25dB gain | HP           | 83017A       | 17 Jul 2014 | 17 Aug 2016   |
| High Pass Filter (cutoff freq. =1000MHz)   | Trilithic    | 23042        | 28 Oct 2015 | 28 Oct 2017   |
| Horn Antenna                               | EMCO         | 3115         | 26 Aug 2015 | 26 Aug 2017   |
| Active Loop Antenna                        | EMCO         | 6502         | 15 Aug 2015 | 15 Aug 2016   |

### AC Mains Conducted Emission

| Equipment     | Manufacturer | Type    | Cal. date   | Cal. Due date |
|---------------|--------------|---------|-------------|---------------|
| Test Receiver | R & S        | ESU40   | 08 Dec 2015 | 07 Dec 2016   |
| LISN          | R & S        | ESH3-Z5 | 16 Aug 2016 | 15 Aug 2016   |
| EMC32         | R & S        | v9.20   | N/A         | N/A           |

## Results FCC Part 15 – Subpart B

| <b>Subclause 15.107 – Conducted Emission on AC Mains</b>                                                                                                                                                                                                                                                                                                                                     |                 |                 |              |                 |                 | <b>Pass</b> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|--------------|-----------------|-----------------|-------------|
| Test Specification : ANSI C63.4 – 2014<br>Mode of operation : Receiving mode<br>Port of testing : AC Mains input port of power supply<br>Detector : Quasi-peak and Average<br>RBW : 9 kHz<br>Supply voltage : 120VAC 60Hz<br>Temperature : 23°C<br>Humidity : 50%                                                                                                                            |                 |                 |              |                 |                 |             |
| Requirement: The emissions from the unintentional radiators comply with the following limit.                                                                                                                                                                                                                                                                                                 |                 |                 |              |                 |                 |             |
| Results: Pass                                                                                                                                                                                                                                                                                                                                                                                |                 |                 |              |                 |                 |             |
| <b>Live measurement</b>                                                                                                                                                                                                                                                                                                                                                                      |                 |                 |              |                 |                 |             |
| Frequency range (MHz)                                                                                                                                                                                                                                                                                                                                                                        | Frequency (MHz) | Quasi-peak dBµV | Average dBµV | Limit QP (dBµV) | Limit AV (dBµV) | Verdict     |
| 0,15 – 0,5                                                                                                                                                                                                                                                                                                                                                                                   | No peak found   | ---             | ---          | 66 - 56         | 56 - 46         | Pass        |
| > 0,5 - 5                                                                                                                                                                                                                                                                                                                                                                                    | No peak found   | ---             | ---          | 56              | 46              | Pass        |
| > 5 - 30                                                                                                                                                                                                                                                                                                                                                                                     | No peak found   | ---             | ---          | 60              | 50              | Pass        |
| <b>Neutral measurement</b>                                                                                                                                                                                                                                                                                                                                                                   |                 |                 |              |                 |                 |             |
| Frequency range (MHz)                                                                                                                                                                                                                                                                                                                                                                        | Frequency (MHz) | Quasi-peak dBµV | Average dBµV | Limit QP (dBµV) | Limit AV (dBµV) | Verdict     |
| 0,15 – 0,5                                                                                                                                                                                                                                                                                                                                                                                   | No peak found   | ---             | ---          | 66 - 56         | 56 - 46         | Pass        |
| > 0,5 - 5                                                                                                                                                                                                                                                                                                                                                                                    | No peak found   | ---             | ---          | 56              | 46              | Pass        |
| > 5 - 30                                                                                                                                                                                                                                                                                                                                                                                     | No peak found   | ---             | ---          | 60              | 50              | Pass        |
| <b>Results:</b> Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate.<br><br>The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150kHz to 30MHz does not exceed the limits.<br>For test Results plots refer to Appendix 1, page 2. |                 |                 |              |                 |                 |             |

| Subclause 15.109 – Radiated Emission                                                                                                                                                                                                                                                    |                                                                                                   | Pass                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------|
| Test Specification : ANSI C63.4 – 2014<br>Mode of operation : Receiving mode<br>Port of testing : Enclosure<br>RBW/VBW : 120 kHz for f < 1 GHz<br>1 MHz / 3 MHz for f > 1 GHz<br>Supply voltage : 120VAC 60Hz<br>Frequency range : 9kHz to 2GHz<br>Temperature : 23°C<br>Humidity : 50% |                                                                                                   |                           |
| Requirement:                                                                                                                                                                                                                                                                            | The field strength of emissions from the unintentional radiators comply with the following limit. |                           |
| Results:                                                                                                                                                                                                                                                                                | Pass                                                                                              |                           |
| Vertical Polarization                                                                                                                                                                                                                                                                   |                                                                                                   |                           |
| Freq<br>MHz                                                                                                                                                                                                                                                                             | Level<br>dBuV/m                                                                                   | Limit/ Detector<br>dBuV/m |
| 30.090                                                                                                                                                                                                                                                                                  | 28.3                                                                                              | 40.0 / QP                 |
| 125.100                                                                                                                                                                                                                                                                                 | 30.2                                                                                              | 43.5 / QP                 |
| Horizontal Polarization                                                                                                                                                                                                                                                                 |                                                                                                   |                           |
| Freq<br>MHz                                                                                                                                                                                                                                                                             | Level<br>dBuV/m                                                                                   | Limit/ Detector<br>dBuV/m |
| 113.430                                                                                                                                                                                                                                                                                 | 20.8                                                                                              | 43.5 / QP                 |