TÜVRheinland®

Produkte
Products

Prüfbericht - Nr.: *Test Report No.:*	**14045184 001**	**Seite 1 von 10** *Page 1 of 10*
Auftraggeber: *Client:*	**ALDI Sourcing Asia Limited** **Suite 2501, Tower 1** **The Gateway, Harbour City** **Kowloon, Hong Kong**	
Gegenstand der Prüfung: *Test Item:*	**Short Range Device - 434MHz Receiver**	
Bezeichnung: *Identification:*	**93716**	**Serien-Nr.:** *Serial No.:* **Engineering sample**
Wareneingangs-Nr.: *Receipt No.:*	**A000357609-005**	**Eingangsdatum:** *Date of Receipt:* **10.05.2016**
Zustand des Prüfgegenstandes bei Anlieferung: *Condition of test item at delivery:*	Test sample(s) is/are not damaged and suitable for testing.	
Prüfort: *Testing Location:*	**Hong Kong Productivity Council** HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong	
Prüfgrundlage: *Test Specification:*	**FCC Part 15 Subpart B** **ANSI C63.4-2014**	
Prüfergebnis: *Test Results:*	**Das vorstehend beschriebene Gerät wurde geprüft und entspricht oben genannter Prüfgrundlage.** The above mentioned product was tested and **passed**.	
Prüflaboratorium: *Testing Laboratory:*	**TÜV Rheinland Hong Kong Ltd.** 8 - 10/F., Goldin Financial Global Square, 7 Wang Tai Road, Kowloon Bay, Kowloon, Hong Kong	

geprüft/ *tested by:*			**kontrolliert/** *reviewed by:*		
25.07.2016	Hugo Wan Senior Project Manager		25.07.2016	Sharon Li Department Manager	
Datum *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*	**Datum** *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*

Sonstiges: Other Aspects — **FCC ID: 2AEWF00093716V**

Abkürzungen:				***Abbreviations:***			
P(ass)	=	*entspricht Prüfgrundlage*		*P(ass)*	=	*passed*	
F(ail)	=	*entspricht nicht Prüfgrundlage*		*F(ail)*	=	*failed*	
N/A	=	*nicht anwendbar*		*N/A*	=	*not applicable*	
N/T	=	*nicht getestet*		*N/T*	=	*not tested*	

Table of Content

Page

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_{nor}: 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:

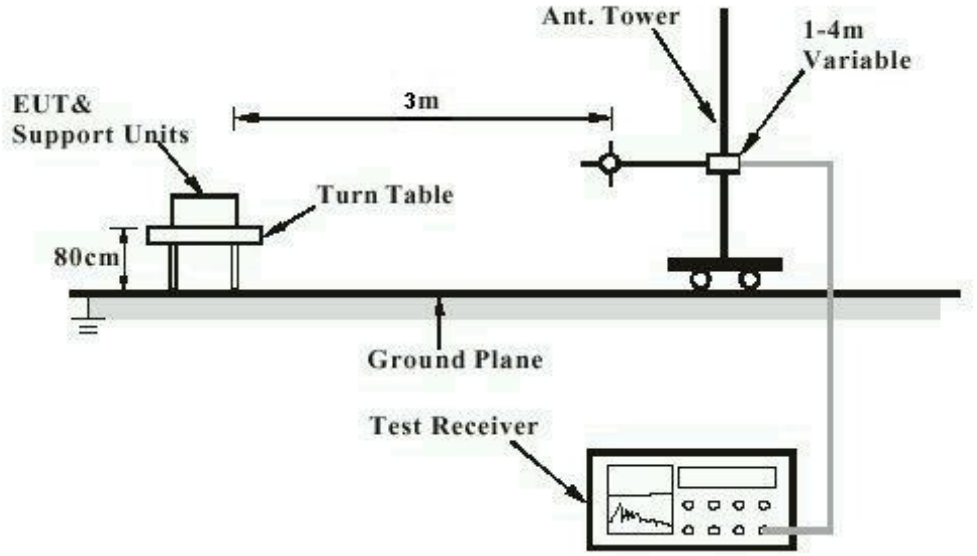
- AC/DC adaptor, Model: 6301-US-A, Input: 100-240VAC 50/60Hz, Output 5.0VDC 1000mA.
- 5ohm resistive load.

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

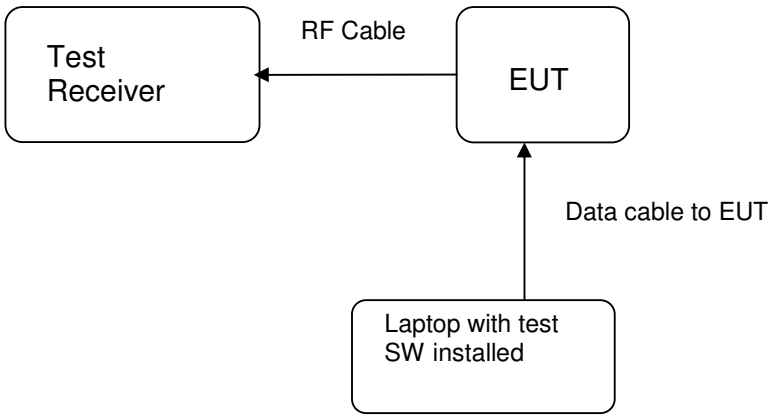
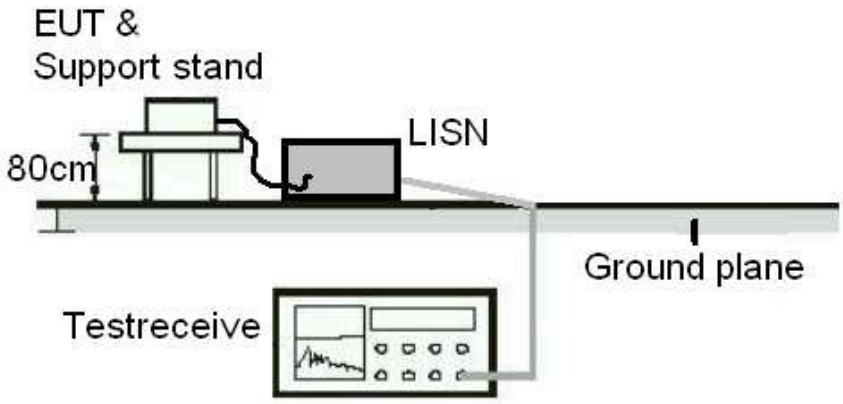


Diagram of Measurement Equipment Configuration for AC Mains Conducted Emission Test (if applicable)



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 amplifer 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

Subclause 15.107 – Conducted Emission on AC Mains **Pass**

Test Specification : ANSI C63.4 – 2014
Mode of operation : Receiving mode
Port of testing : AC Mains input port of power supply
Detector : Quasi-peak and Average
RBW : 9 kHz
Supply voltage : 120VAC 60Hz
Temperature : 23ºC
Humidity : 50%

Requirement: The emissions from the unintentional radiators comply with the following limit.

Results: Pass

Live measurement

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

Neutral measurement

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

Results: Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate.

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. For test Results plots refer to Appendix 1, page 2.

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