

Produkte
Products

Prüfbericht - Nr.: 14044204 001

Test Report No.:

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Auftraggeber: ALDI Sourcing Asia Limited
Client: Suite 2501, Tower 1
The Gateway, Harbour City
Kowloon, Hong Kong

Gegenstand der Prüfung: Short Range Device - 434MHz Transmitter
Test Item:

Bezeichnung: 93716 **Serien-Nr.:** Engineering sample
Identification: *Serial No.:*

Wareneingangs-Nr.: A000359910-001 **Eingangsdatum:** 13.05.2016
Receipt No.: *Date of Receipt:*

Zustand des Prüfgegenstandes bei Anlieferung: Test sample(s) is/are not damaged and
Condition of test item at delivery: suitable for testing.

Prüfort: TÜV Rheinland Hong Kong Ltd.
Testing Location: 8/F, First Group Centre, 14 Wang Tai Road, Kowloon Bay, Kowloon, Hong Kong
Global United Technology Services Co., Ltd.
2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road, Baoan District,
Shenzhen, China


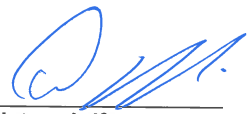
Prüfgrundlage: FCC Part 15 Subpart C
Test Specification: ANSI C63.10-2013

Prüfergebnis: Das vorstehend beschriebene Gerät wurde geprüft und entspricht oben
Test Results: genannter Prüfgrundlage.
The above mentioned product was tested and **passed**.

Prüflaboratorium: TÜV Rheinland Hong Kong Ltd.
Testing Laboratory: 8 - 10/F., Goldin Financial Global Square, 7 Wang Tai Road, Kowloon Bay,
Kowloon, Hong Kong

geprüft/ tested by:

kontrolliert/ reviewed by:

08.07.2016	Hugo Wan		08.07.2016	Sharon Li	
	Senior Project Manager			Department Manager	
Datum	Name/Stellung	Unterschrift	Datum	Name/Stellung	Unterschrift
<i>Date</i>	<i>Name/Position</i>	<i>Signature</i>	<i>Date</i>	<i>Name/Position</i>	<i>Signature</i>

Sonstiges: FCC ID: 2AEWF00093716S
Other Aspects

Abkürzungen:	P(ass) = entspricht Prüfgrundlage	Abbreviations:	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	

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.
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.

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Test Summary

Conducted Emissions

Result: N/A

20dB bandwidth

Result: Pass

Radiated Emission of Carrier Frequency

Result: Pass

Spurious Radiated Emissions

Result: Pass

Transmission duration and silent period

Result: Pass

Product information

Manufacturers declarations

	Transmitter
Operating frequency range	434 MHz
Type of modulation	ASK
Number of channels	1
Type of antenna	Integral Antenna
Power level	fix
Connection to public utility power line	No
Nominal voltage	V _{nom} : 3.0Vdc (2 x 1.5V "AAA" battery)

Product function and intended use

The equipment under test (EUT) is a transmitter operating at 434MHz. And it is powered by 3.0Vdc (2 x 1.5V "AAA" battery).

FCC ID: 2AEWF00093716S

Models	Product description
93716	Temperature sensor

Submitted documents

Circuit Diagram
Block Diagram
Bill of material
User manual
Rating Label

Independent Operation Modes

The basic operation modes are:

- Transmitting mode .

For further information refer to User Manual

Related Submittal(s) Grants

This is a single application for certification of the transmitter. The FCC ID of the corresponding receiver is 2AEWF00093716V and 2AEWF00093716H.

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:

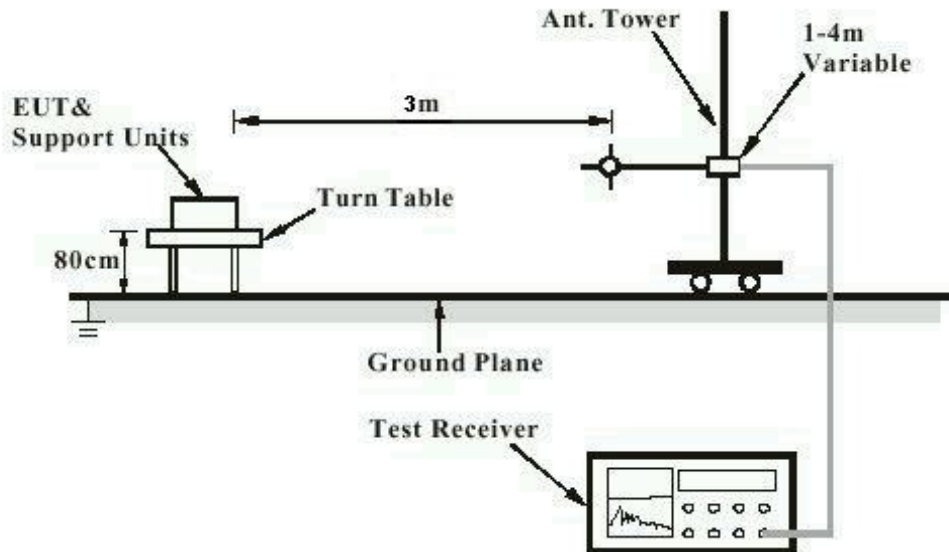
- none

Countermeasures to achieve EMC Compliance

- none

Test Setup Diagram

Diagram of Measurement Configuration for Radiated Emission Test



Note: Measurements above 1 GHz are done with a table height of 1.5m. In addition, there is RF absorbing material on the floor of the test site for above 1GHz measurement.

Diagram of Measurement Configuration for Conducted RF Test

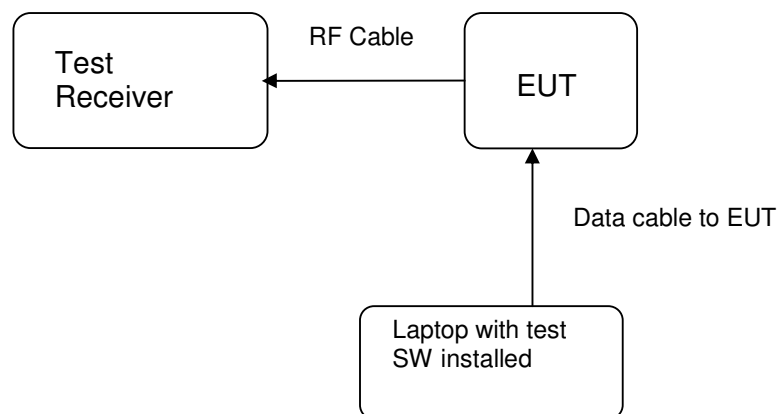
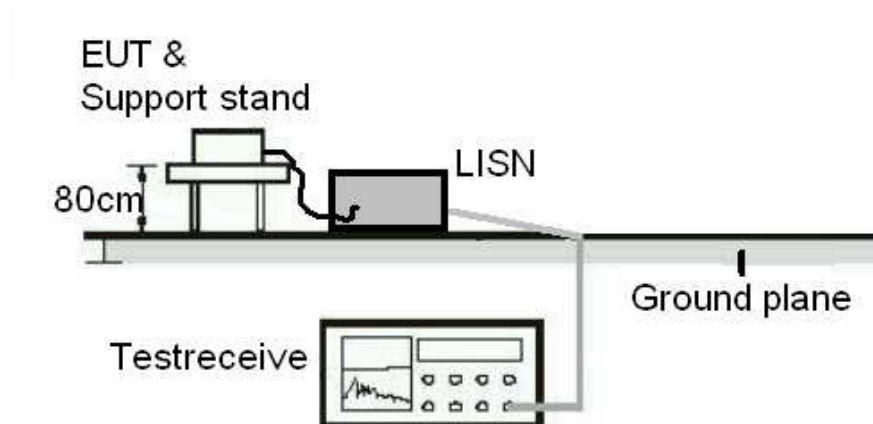


Diagram of Measurement Equipment Configuration for AC Mains Conducted Emission Test (if applicable)



List of Test and Measurement Instruments

Global United Technology Services Co., Ltd. (FCC Registration number: 600491)

Radiated Emission

Equipment	Manufacturer	Type	Cal. date	Cal. Due date
3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	2 Jul 2015	2 Jul 2017
Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	N/A	N/A
ESU EMI Test Receiver	R&S	ESU26	2 Aug 2015	2 Aug 2016
BiConiLog Antenna	SCHWARZBECK	VULB9163	5 Aug 2015	5 Aug 2016
Double-ridged horn antenna	SCHWARZBECK	9120D	5 Aug 2015	5 Aug 2016
RF Amplifier	HP	8347A	2 Aug 2015	2 Aug 2016
EMI Test Software	AUDIX	E3	N/A	N/A
Coaxial cable	GTS	N/A	N/A	N/A
Thermo meter	N/A	N/A	7 Aug 2015	7 Aug 2016

TÜV Rheinland Hong Kong Ltd.

Radio Frequency Test

Equipment	Manufacturer	Type	Cal. date	Cal. Due date
Spectrum Analyzer	Rohde & Schwarz	FSP30	19 Jan 2015	19 Jan 2017

Results FCC Part 15 – Subpart C

Subclause 15.203 – Antenna Information		Pass
Requirement:	No antenna other than that furnished by the responsible party shall be used with the device	
Results:	Permanent attached antenna	
Verdict:	Pass	

Subclause 15.207 – Conducted Emission on AC Mains		N/A
There is no AC power input or output ports on the EUT.		

Subclause 15.231 (c) – 20 dB Bandwidth		Pass
Requirement: The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.		
Test Specification : ANSI C63.10 – 2013 Mode of operation : Tx mode Port of testing : Enclosure RBW/VBW : 100kHz/300kHz Supply voltage : 3.0VDC Temperature : 23°C Humidity : 50%		
Results:	Pass	
Frequency (MHz)	20 dB Bandwidth (kHz)	Limit (kHz)
433.996	312	<1085

Subclause 15.231 (e) – Radiated Emission (Fundamental and Harmonics)			Pass
Test Specification : ANSI C63.10 – 2013 Mode of operation : Tx mode Port of testing : Enclosure RBW/VBW : 120 kHz for f < 1 GHz 1 MHz / 3 MHz for f > 1 GHz Supply voltage : 3.0VDC Frequency range : 9kHz to tenth harmonic Temperature : 23°C Humidity : 50%			
Requirement: The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following limit.			
Results: Pass			
Fundamental Frequency		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
433.920	69.0	73.1 / AV	
433.920	79.9	93.1 / PK	
Fundamental Frequency		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
433.920	56.5	73.1 / AV	
433.920	65.4	93.1 / AV	
Harmonics		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
867.900	42.4	53.1 / QP	
1736.000	55.7	74.0 / PK	
1736.000	46.0	54.0 / AV	
2169.600	51.6	74.0 / PK	
2604.000	40.0	74.0 / PK	
Harmonics		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
868.000	29.7	53.1 / AV	
1301.760	41.7	74.0 / PK	
1736.000	48.2	74.0 / PK	
2169.600	53.3	74.0 / PK	
2169.600	46.8	54.0 / AV	
2604.000	39.7	74.0 / PK	

Subclause 15.205 – Spurious Radiated Emissions		Pass
Test Specification : ANSI C63.10 - 2013 Mode of operation : Tx mode Port of testing : Enclosure Detector : Peak RBW/VBW : 120 kHz for f < 1 GHz 1 MHz / 3 MHz for f > 1 GHz Supply voltage : 3.0VDC Frequency range : 9kHz to tenth harmonic Temperature : 23°C Humidity : 50%		
Requirement:	The field strength of emissions appearing within the restricted frequency bands shall not exceed the limits shown in §15.209.	
Results:	Pass	
Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
No peak found	---	---
Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
839.182	35.97	46.0 / QP

Subclause 15.231 (e) – Transmission Timing Requirement			Pass
Requirement: Devices operated under the provisions of this paragraph shall be provided with a means for automatically limiting operation so that the duration of each transmission shall not be greater than one second and the silent period between transmissions shall be at least 30 times the duration of the transmission but in no case less than 10 seconds.			
Results: Pass			
Freq MHz	Transmission Duration Sec	Limit Sec	
434.00	0.380	<1	
Results: Pass			
Freq MHz	Silent Period Sec	Limit Sec	
434.00	30.4	>11.4	