



Test report No.: 2360572R-RFUSV17S-A

RF Exposure Report

Product Name	Combo Module
Trademark	ARGOX
Model and /or type reference	WM100-BW
FCC ID	NBF-WM100
Applicant's name / address	Argox information Co., Ltd 8F., No. 28, Baogao Rd., Xindian Dist., New Taipei City, Taiwan
Manufacturer's name	Argox information Co., Ltd
Test method requested, standard	KDB 447498 D01 v06 <input checked="" type="checkbox"/> Minimum test separation distance \geq 20 cm <input type="checkbox"/> For low power devices
Verdict Summary	IN COMPLIANCE
Documented By (Supervisor / Jinn Chen)	<i>Jinn Chen</i>
Approved By (Senior Engineer / Jack Hsu)	<i>Jack Hsu</i>
Approved By (Manager / Tim Sung)	<i>Tim Sung</i>
Date of Receipt	2023/06/18
Date of Issue	2023/09/15
Report Version	V1.0

Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

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5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Report No.	Version	Description	Issued Date
2360572R-RFUSV17S-A	V1.0	Initial issue of report.	2023/09/15

1. General Information

1.1. EUT Description

Product Name	Combo Module
Trademark	ARGOX
Model and /or type reference	WM100-BW

Note: For more detailed information please refer to report No.: 2360572R-RFUSV01S-A, 2360572R-RFUSV01S-B and 2360572R-RFUSV01S-C.

2. Test Facility

USA	FCC Registration Number: TW0033
Site Description	Accredited by TAF
	Accredited Number: 3023
Test Laboratory	DEKRA Testing and Certification Co., Ltd.
	Linkou Laboratory
Address	No.5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan, R.O.C
Performed Location	No. 26, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan, R.O.C.
Phone Number	+886-3-275-7255
Fax Number	+886-3-327-8031

3. RF Exposure Evaluation

3.1. Standard Applicable

According to KDB 447498 D01 (7.1), A minimum test separation distance ≥ 20 cm is required between the antenna and radiating structures of the device and nearby persons to apply mobile device exposure limits.

3.2. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/ Uncontrolled Exposures				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0

3.3. Test Result of RF Exposure Evaluation

Product	Combo Module
Test Item	RF Exposure Evaluation

Dipole

Band	conducted output power (dBm)	Antenna Gain (dBi)	Tune-up tolerances E.I.R.P (dBm)	Tune-up tolerances E.I.R.P (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
Bluetooth	1.43	6.42	7.850	6.095	0.0012	1
Bluetooth LE	0.39	6.42	6.810	4.797	0.0010	1
2.4 GHz WLAN	12.26	6.42	18.680	73.790	0.0147	1

PIFA

Band	conducted output power (dBm)	Antenna Gain (dBi)	Tune-up tolerances E.I.R.P (dBm)	Tune-up tolerances E.I.R.P (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
Bluetooth	1.43	3.9	5.330	3.412	0.0007	1
Bluetooth LE	0.39	3.9	4.290	2.685	0.0005	1
2.4 GHz WLAN	12.26	3.6	15.860	38.548	0.0077	1

Note: The conducted output power is refer to report No.: 2360572R-RFUSV01S-A, 2360572R-RFUSV01S-B and 2360572R-RFUSV01S-C from the DEKRA.

Results	PASS
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