

RED-Health Test Report

For

iDTRONIC GmbH

HF Reader Module

Model No.: M900-TTL, M890-TTL, M890-232,
R835-TTL, M890-USB, MF890-USB

Prepared For : iDTRONIC GmbH

Address : Donnersbergweg 1, 67059 Ludwigshafen am Rhein, Germany

Prepared By : Shenzhen Anbotek Compliance Laboratory Limited

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Date of Test : Nov. 21~22, 2017

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TEST REPORT

Applicant : iDTRONIC GmbH
Manufacturer : iDTRONIC GmbH
Product Name : HF Reader Module
Model No. : M900-TTL, M890-TTL, M890-232, R835-TTL, M890-USB, MF890-USB
Trade Mark : N.A.
Rating(s) : DC 3.3-5V, 35mA

Test Standard(s) **EN 62479:2010**

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. This report shows the EUT to be technically compliant with the EN 62479: 2010 requirements. The test results are contained in this report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full responsibility for the accuracy and completeness of these tests.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Test

Nov. 21~22, 2017

Prepared By



Winkey Wang

(Tested Engineer / Winkey Wang)

Reviewer

May Lu

(Project Manager / May Lu)

Approved & Authorized Signer

Tom Chen

(Manager / Tom Chen)

1. General Information

1.1. Client Information

Applicant	:	iDTRONIC GmbH
Address	:	Donnersbergweg 1, 67059 Ludwigshafen am Rhein, Germany
Manufacturer	:	iDTRONIC GmbH
Address	:	Donnersbergweg 1, 67059 Ludwigshafen am Rhein, Germany

1.2. Description of Device (EUT)

Product Name	:	HF Reader Module	
Model No.	:	M900-TTL, M890-TTL, M890-232, R835-TTL, M890-USB, MF890-USB (Note: All samples are the same except the model number and colour, so we prepare "M900-TTL" for test only.)	
Trade Mark	:	N.A.	
Test Power Supply	:	DC 3-4.5V via USB Port	
Product Description	:	Operation Frequency:	13.56MHz
		Number of Channel:	1 Channels
		Modulation Type:	ASK, NRZ
		Antenna Type:	Coil Antenna
		Antenna Gain(Peak):	0 dBi
Remark: 1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.			

1.3. Auxiliary Equipment Used During Test

N/A	
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1.4 Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111, July 31, 2017.

ISED-Registration No.: 8058A-1

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A-1, June 13, 2016.

Test Location

All Emissions tests were performed at

Shenzhen Anbotek Compliance Laboratory Limited.

1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

1.5 Measurement Uncertainty

Parameter	Uncertainty
Occupied Channel Bandwidth	$\pm 5\%$
RF output power, conducted	$\pm 1,5\text{ dB}$
Power Spectral Density, conducted	$\pm 3\text{ dB}$
Unwanted Emissions, conducted	$\pm 3\text{ dB}$
All emissions, radiated	$\pm 6\text{ dB}$
Temperature	$\pm 1\text{ }^{\circ}\text{C}$
Humidity	$\pm 5\%$
DC and low frequency voltages	$\pm 3\%$
Time	$\pm 5\%$
Duty Cycle	$\pm 5\%$

2. GENERAL PRODUCT INFORMATION

2.1 Product Function and Intended Use

The submitted sample is wireless transceiver includes transmitter and receiver.

2.2 Ratings and System Detail

Transmitter		
Frequency Range	:	13.56MHz
Power Supply	:	DC 3-4.5V via USB Port

3. EN 62479 REQUIREMENT

3.1 General Description of Applied Standards

Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz).

3.2 Human exposure to the Electromagnetic fields

This International Standard provides simple conformity assessment methods for low-power electronic and electrical equipment to an exposure limit relevant to electromagnetic fields (EMF). If such equipment cannot be shown to comply with the applicable EMF exposure requirements using the methods included in this standard for EMF assessment, then other standards, including IEC 62311 or other (EMF) product standards, may be used for conformity assessment.

3.3 RF Exposure Evaluation

3.3.1 Limit:

According to EN 62479 clause 4.2 Low-power electronic and electrical equipment is deemed to comply with the provisions of this standard if it can be demonstrated using routes B, C or D that the available antenna power and/or the average total radiated power is less than or equal to the applicable low-power exclusion level P_{max} .

$P_{max} = 20 \text{ mW}$ (13.1dBm) according to ICNIRP guidelines, since the EUT is General public used.

Remark:

B: The input power level to electrical or electronic components that are capable of radiating electromagnetic energy in the relevant frequency range is so low that the available antenna power and/or the average total radiated power cannot exceed the low-power exclusion level defined in EN 62479 clause 4.2

C: The available antenna power and/or the average total radiated power are limited by product standards for transmitters to levels below the low-power exclusion level defined in EN 62479 clause 4.2

D: Measurements or calculations show that the available antenna power and/or the average total radiated power are below the low-power exclusion level defined in EN 62479 clauses 4.2.

3.3.2 Test result

The EIRP of the EUT which are below the max permitted sending level of 20 mW, and then the EUT is not need to conduct SAR measurement.

More details please refer to R0217110088W.

----- End of Report -----