



RF Exposure Evaluation

For

Bird Home Automation GmbH

IP Access Control Device

Test Model: A1122

Prepared for : Bird Home Automation GmbH
Address : Uhlandstr. 165, 10719 Berlin, Germany

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
Address : 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei,
Shajing Street, Baoan District, Shenzhen, 518000, China

Tel : (+86)755-82591330
Fax : (+86)755-82591332
Web : www.LCS-cert.com
Mail : webmaster@LCS-cert.com

Date of receipt of test sample : December 26, 2025
Number of tested samples : 2
Sample number : A251219075-1, A251219075-2
Serial number : Prototype
Date of Test : December 26, 2025 ~ March 19, 2026
Date of Report : March 20, 2026



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

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**RF Exposure Evaluation****Report Reference No.** : LCSA12255011EE**Date of Issue** : March 20, 2026**Testing Laboratory Name** : Shenzhen LCS Compliance Testing Laboratory Ltd.**Address** : 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China**Testing Location/ Procedure** : Full application of Harmonised standards ☒
Partial application of Harmonised standards ☐
Other standard testing method ☐**Applicant's Name** : Bird Home Automation GmbH**Address** : Uhlandstr. 165, 10719 Berlin, Germany**Test Specification****Standard** : FCC KDB publication 447498 D01 General 1 RF Exposure
Guidance v06
FCC CFR 47 part1 1.1310
FCC CFR 47 part2 2.1091**Test Report Form No.** : TRF-4-E-214 A/0**TRF Originator** : Shenzhen LCS Compliance Testing Laboratory Ltd.**Master TRF** : Dated 2011-03**Shenzhen LCS Compliance Testing Laboratory Ltd. All rights reserved.**

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EUT Description : IP Access Control Device**Trade Mark** : DoorBird**Test Model** : A1122**Ratings** : Please Refer to Page 6**Result** : PASS**Compiled by:**

Diamond Lu/ Administrators

Supervised by:

Kevin Huang/ RF Manager

Approved by:

Gavin Liang/ Manager



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RF Exposure Evaluation

Test Report No. : LCSA12255011EE	<u>March 20, 2026</u> Date of issue
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Test Model..... : A1122

EUT..... : IP Access Control Device

Applicant..... : Bird Home Automation GmbH

Address..... : Uhlandstr. 165, 10719 Berlin, Germany

Telephone..... : /

Fax..... : /

Manufacturer..... : Bird Home Automation GmbH

Address..... : Uhlandstr. 165, 10719 Berlin, Germany

Telephone..... : /

Fax..... : /

Factory..... : Bird Home Automation GmbH

Address..... : Uhlandstr. 165, 10719 Berlin, Germany

Telephone..... : /

Fax..... : /

Test Result	PASS
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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.





Revision History

Report Version	Issue Date	Revision Content	Revised By
000	March 20, 2026	Initial Issue	--





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1. Product Information

EUT	: IP Access Control Device
Test Model	: A1122
Ratings	: Input: PoE 44-57V or 15VDC, max 15W
Hardware Version	: /
Software Version	: /
Bluetooth	:
Frequency Range	: 2402MHz~2480MHz
Channel Number	: 40 channels for Bluetooth V5.0 (DTS)
Channel Spacing	: 2MHz for Bluetooth V5.0 (DTS)
Modulation Type	: GFSK for Bluetooth V5.0 (DTS)
Bluetooth Version	: V5.0
Antenna Description	: FPC Antenna, 3.57dBi(Max.)
WIFI(2.4G Band)	:
Frequency Range	: 2412MHz~2462MHz
Channel Spacing	: 5MHz
Channel Number	: 11 Channels for 20MHz bandwidth (2412~2462MHz) 7 Channels for 40MHz bandwidth (2422~2452MHz)
Modulation Type	: IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Description	: PCB Antenna, 2.0dBi(Max.)
NFC	:
Operating Frequency	: 13.56MHz
Modulation Type	: ASK
Antenna Description	: FPC Coil Antenna, 0dBi(Max.)
RFID	:
Operating Frequency	: 125kHz
Modulation Type	: ASK
Antenna Description	: Coil Antenna, 0dBi(Max.)
Exposure category	: General population/uncontrolled environment
EUT Type	: Production Unit

Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer.





2. Evaluation Method

According to KDB 447498 D01 V06 and 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 part 2.1091

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) LIMITS FOR OCCUPATIONAL/CONTROLLED EXPOSURE				
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
(ii) LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE				
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. * = Plane-wave equivalent power density.*

Simultaneous Transmission:

According FCC part 1.1307 in paragraph (b)(3)(ii)(B) – in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation:

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

3. Conducted Power

[BLE]			
	Modulation	Channel	Max. Conducted Power (dBm)
BLE	GFSK	LCH	-1.97
		MCH	0.51
		HCH	-0.60

[2.4G WIFI]





Mode	Channel	Frequency(MHz)	Average Conducted Output Power (dBm)
IEEE 802.11b	1	2412	12.83
	6	2437	12.18
	11	2462	12.40
IEEE 802.11g	1	2412	10.50
	6	2437	9.92
	11	2462	10.78
IEEE 802.11n HT20	1	2412	10.27
	6	2437	9.15
	11	2462	9.36
IEEE 802.11n HT40	3	2422	10.69
	6	2437	9.55
	9	2452	10.17

Mode	Frequency(MHz)	Max Power (dBuV/m)
RFID	0.125	78.10
NFC	13.56	49.80





4. Manufacturing Tolerance

[BLE]

Modulation	Channel	Target (dBm)	Tolerance ±(dB)
GFSK	LCH	-1.0	1.0
	MCH	0	1.0
	HCH	0	1.0

[2.4G WIFI]

11B (Average)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	12.0	12.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11G (Average)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	10.0	9.0	10.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20SISO (Average)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	10.0	9.0	9.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40SISO (Average)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	10.0	9.0	10.0
Tolerance ±(dB)	1.0	1.0	1.0

5. Measurement Results

5.1 MPE Calculation Method

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

Where P_d = Power density in mW/cm^2

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1416

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





As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, $r = 20\text{cm}$, as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.

[BLE 1M]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
GFSK	1.0	1.2589	3.57	2.2751	0.0006	1.0000

[2.4G WLAN]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11b	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11g	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11n HT20	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11n HT40	11.0	12.5893	2.0	1.5849	0.0040	1.0000

[RFID 125kHz]

Modulation Type	H-field Level@3m(dBuV/m)	H-field Level@3m(V/m)	Field intensity limited V/m
ASK	78.10	0.008035	614
Note: $V/m = 10^{*}[(dBuV/m - 120)/20]$			

[NFC 13.56 MHz]

Modulation Type	H-field Level@3m(dBuV/m)	H-field Level@3m(V/m)	Field intensity limited V/m
ASK	49.8	0.000309	60.77
Note: 1. Field intensity limited: $824/f(13.56\text{MHz}) = 60.77 \text{ V/m}$ 2. $V/m = 10^{*}[(dBuV/m - 120)/20]$			

Remark:

1. Output power including tune-up tolerance;
2. Output power was adjust to duty cycle at 100% if measured duty cycle less than 98%;
3. MPE evaluate distance is 20cm from user manual provide by manufacturer.





5.2 Simultaneous Transmission MPE

Mode option 1	MPE ratio	Limit
2.4GWIFI	0.0063	/
BLE	0.0006	/
NFC	0.000005	/
Total Ratio	0.006905	1.0

Mode option 2	MPE ratio	Limit
2.4GWIFI	0.0063	/
BLE	0.0006	/
RFID 125kHz	0.000013	/
Total Ratio	0.006913	1.0

Note: Either RFID 125 kHz or NFC 13.56 MHz can be turned on, not both simultaneously

6. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

7. Description of Test Facility

NVLAP Accreditation Code is 600167-0.

FCC Designation Number is CN5024.

CAB identifier is CN0071.

CNAS Registration Number is L4595.

Test Firm Registration Number: 254912.

8. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Output power	1GHz-40GHz	$\pm 0.57\text{dB}$	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

.....THE END OF REPORT.....

