RF Exposure Evaluation Report

Product Name : BF-IDU07
Model No. : BIS U-620-068-111-00-S115, BIS U-620-068-111-00-ST29, BIS U-626-069-111-06-ST31, BIS U-626-069-111-06-ST32
FCC ID : 2AGZY-BFIDU07

Applicant : Balluff GmbH
Address : Schurwaldstrasse 9, Neuhausen a.d.F. 73765, Germany

Date of Receipt : Dec. 19, 2019
Date of Declaration : Dec. 07, 2020
Report No. : 19C0313R-E3082100013
Report Version : V1.0

Testing Laboratory
3023

Issued Date: Dec. 07, 2020
Report No.: 19C0313R-E3082100013

Product Name	BF-IDU07	
Applicant	Balluff GmbH	
Address	Schurwaldstrasse 9, Neuhausen a.d.F. 73765, Germany	
Manufacturer	Balluff GmbH	
Model No.	BIS U-620-068-111-00-S115, BIS U-620-068-111-00-ST29, BIS U-626-069-111-06-ST31, BIS U-626-069-111-06-ST32	
FCC ID.	2AGZY-BFIDU07	
Trade Name	BALLUFF	
Applicable Standard	KDB 447498 D01 v06	☒ Minimum test separation distance ≥ 20 cm ☐ For low power devices
Test Result	Complied	

Documented By : Joanne Lin
(Senior Adm. Specialist / Joanne Lin)

Tested By : wen Lee
(Supervisor / Wen Lee)

Approved By :
(Director / Vincent Lin)

Revision History

Report No.	Version	Description	Issued Date
19C0313R-E3082100013	V1.0	Initial issue of report.	2020-12-07

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	BF-IDU07
Trade Name	BALLUFF
Model No.	BIS U-620-068-111-00-S115, BIS U-620-068-111-00-ST29, BIS U-626-069-111-06-ST31, BIS U-626-069-111-06-ST32
FCC ID.	2AGZY-BFIDU07
Contain FCC ID.(BT)	RFRMSR
Frequency Range	902.75-927.25MHz
Channel Number	50
Type of Modulation	FHSS:ASK
Antenna Type	Patch Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”

1.2. Antenna List :

No.	Manufacturer	Product No.	Antenna Type	Peak Gain	Peak Gain
1	BALLUFF	BIS U-303-C1-TNCB	Patch Antenna	8.5dBic	5.5dBi

Note:

(1) Only the higher gain antenna was tested and recorded in this report.

(2) dBi = dBic - 3

2. RF Exposure Evaluation

2.1. 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				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

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2.2. Test Result of RF Exposure Evaluation

Product : BF-IDU07
Test Item : RF Exposure Evaluation

RFID Peak Gain: 5.5dBi

Band	Frequency (MHz)	Conducted maximum Peak Power (dBm)	ERP Power (dBm)	ERP Power (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
RFID	902.75~927.25	27.78	31.13	1297.2	0.258	0.602	Pass

Note: The Maximum conducted output power is refer to report No.: 19C0313R-RFUSP23V00 from the DEKRA.