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IEEE C95.1
KDB 447498 D03
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

PORTABLE TURNTABLE SYSTEM

Model: SPiN

Trade Name: RELOOP

Issued to

Global Distribution GmbH & Co. KG
Schuckert Str. 28, 48153 Muenster, Germany

Issued By

Compliance Certification Services Inc.

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Issued Date: February 15, 2019

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部分複製。

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REVISION HISTORY

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	February 15, 2019	Initial Issue	ALL	Sunny Chang



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1. TEST RESULT CERTIFICATION

We hereby certify that:

The equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirement of the applicable standards. The test record, data evaluation and Equipment under Test (EUT) configurations represented herein are true and accurate accounts of the measurement of the sample's RF characteristics under the conditions specified in this report.

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by:

Jeter Wu
Assistant Manager

Reviewed by:

Eric Huang
Section Manager

2. LIMIT

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

3. EUT SPECIFICATION

EUT	PORTABLE TURNTABLE SYSTEM		
Model	SPiN		
Trade Name	RELOOP		
Model Discrepancy	N/A		
Frequency band (Operating)	☐ 802.11b/g/n HT20: 2412MHz ~ 2462MHz 802.11n HT40: 2422MHz ~ 2452MHz ☒ Others 2402MHz ~ 2480MHz (BT3.0 BT 4.0)		
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others		
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm ²) ☒ General Population/Uncontrolled exposure (S=1mW/cm ²)		
Antenna Specification	PCB Antenna / Gain: 1.450 dBi (Numeric gain: 1.40) worst		
Maximum Average output power	GFSK(BT3.0):	-2.752 dBm	(0.531 mW)
	8-DPSK	-0.650 dBm	(0.861 mW)
	GFSK(BT4.0)	-1.360 dBm	(0.731 mW)
Maximum Tune up Power	GFSK(BT3.0):	-2.500 dBm	(0.562 mW)
	8-DPSK:	-0.500 dBm	(0.891 mW)
	GFSK(BT4.0)	-1.500 dBm	(0.708 mW)
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A		
Reported Date	December 07, 2018		

Notes: For 2.4GHz and 5GHz could not be use as transmit/receive at the same time.



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4. TEST RESULTS

No non-compliance noted.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P / 1000) \times G}{377 \times (d / 100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

GFSK(BT3.0):

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)	Result
High	2480	0.562	1.40	20	0.0002	1	Pass

8-DPSK:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)	Result
High	2480	0.891	1.40	20	0.0002	1	Pass

GFSK(BT4.0):

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)	Result
High	2480	0.708	1.40	20	0.0002	1	Pass