

Hunter Fan Company RF Exposure Exhibit

SCOPE OF WORK

EMC TESTING – Ceiling Fan Remote Model: K6019-01, K6266-02

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**RF Exposure Exhibit
(mobile devices)**

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Project Number: G104058883

Report Issue Date: February 5, 2024

Product Designation: Ceiling Fan Remote

Model Tested: K6019-01, K6266-02

FCC ID: IN2TX45

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to

47CFR 2.1091

RSS-102 Issue 5

for

Hunter Fan Company

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Report No. 104058883MPK-002	
Equipment Under Test:	Ceiling Fan Remote
Trade Name:	Hunter Fan Company
Model(s) Tested:	K6019-01, K6266-02
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Applicable Regulation:	47CFR 2.1091 RSS-102 Issue 5

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1.0 RF Exposure Summary

Test	Reference FCC	Reference Industry Canada	Result
Radio frequency Radiation Exposure Evaluation	47 CFR§2.1091	RSS-102 Issue 5	Complies

2.0 RF Exposure Limits

In this document, we evaluate the RF Exposure to human body due the intentional transmission from the transmitter (EUT). The limits for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 and RSS-102 are followed.

2.1 FCC Limits

According to FCC 1.1310 table 1: The criteria listed in the following table shall be used to evaluate the environmental 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 - 1500	...	...	F/300	6
1500 - 100,000	...	...	5	6
(B)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 - 1500	...	...	F/1500	30
1500 - 100,000	...	...	1.0	30

F = Frequency in MHz

* = plane wave equivalent density

2.2 Industry Canada Limits

According to RSS-102, Industry Canada has adopted the SAR and RF field strength limits established in Health Canada's RF exposure guideline, Safety Code 6.

Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)				
Frequency Range	Electric Field	Magnetic Field	Power Density	Reference Period
(MHz)	(V/m rms)	(A/m rms)	(W/m ²)	(minutes)
0.003-10	83	90	-	Instantaneous*
0.1-10	-	$0.73/f$	-	6**
1.1-10	$87/f^{0.5}$	-	-	6**
10-20	27.46	0.0728	-2	6
20-48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142 f^{0.3417}$	$0.008335 f^{0.3417}$	$0.02619 f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158 f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$
Note: f is frequency in MHz. * Based on nerve stimulation (NS). ** Based on specific absorption rate (SAR).				

3.0 Test Results (Mobile Configuration)

3.1 Classification

Radio is installed inside a mobile host device. The antenna of the product, under normal use condition, is at least 20 cm away from the body of the user and accessible to the end user. Warning statement to the user for keeping at least 20 cm or more separation distance with the antenna should be included in user's manual.

3.2 EIRP calculations

The Ceiling Fan Remote, Model: K6019-01, K6266-02 consists of a single radio.

3.3 Maximum RF Power

Frequency Range (MHz)	RF Field Strength @3m (dBuV/m)	Note
433.9	62.64	Field strength measurements were taken from Report # 104058883MPK-001

3.4 RF Exposure Calculation

3.4.1 RF Exposure calculation

Calculations for this report are based on highest power measured.

Frequency Range (MHz)	Field Strength @3m (dBuV/m)	EIRP (mW)	Power Density (W/m ²) @20 cm	RSS Limit (W/m ²)	Results
433.9	62.64	0.0006	0.0000012	1.6616042	Complies

Frequency Range (MHz)	Field Strength @3m (dBuV/m)	EIRP (mW)	Power Density (mW/cm ²) @20 cm	FCC Limit (mW/cm ²)	Results
433.9	62.64	0.0006	0.0000001	0.2892667	Complies

Note: Antenna gains below 0 are considered as 0dBi.

Appendix A: Power Density Calculation

The Power Density can be calculated using the formula

$$S = \text{EIRP} / 4\pi D^2$$

Where: S is Power Density in mW/cm²

D is the distance from the antenna in cm.

4.0 Document History

Revision/ Job Number	Writer Initials	Reviewers Initials	Date	Change
01/ G104058883	AC	ML	February 5, 2024	Original document