HCT CO.,LTD.

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FCC / IC MPE REPORT

Certification

Applicant Name:
FRTEK CO., LTD.

Address:
11-25, Simin-daero 327beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea

Date of Issue:
February 01, 2019
Test Site/Location:
HCT CO., LTD., 74,Seoicheon-ro 578beon-gil,Majang-myeo,Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
Report No.: HCT-RF-1811-FI011-R1

FCC ID:	**2AFEG-37BT**
IC:	**20471-37BT**
APPLICANT:	**FRTEK CO., LTD.**

Model:	FR-RLWFDO37UC
EUT Type:	INOVA 5W
Frequency Range:	2402 MHz - 2480 MHz (Bluetooth)

The measurements shown in this report were made in accordance with the procedures specified in §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

Report prepared by : Se Wook Park
Engineer of Telecommunication testing center

Approved by : Jong Seok Lee
Manager of Telecommunication testing center

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-1811-FI011	November 28, 2018	- First Approval Report
HCT-RF-1811-FI011-R1	February 01, 2019	- Revised the Prediction distance and result on page 5

RF Exposure Statement

1. Limit

According to §1.1310, §2.1091, RSS-102 RF exposure is calculated.

(B) Limits for General Population/Uncontrolled Exposures

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
0.3 - 1.34				
1.34 - 30	614	1.63	*(100)	30
30 - 300	824/f	2.19/f	*(180/ f^2)	30
300 - 1500	27.5	0.073	0.2	30
1500 - 100.000	.....	.....	f/1500	30
	.....	.....	1.0	30

F = frequency in MHz

* = Plane-wave equivalent power density

Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

Frequency range (MHz)	Electric field strength (V/m rms)	Magnetic field strength (A/m rms)	Power density (W/cm^2)	Averaging time (minutes)
000.3-10	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).

2. Maximum Permissible Exposure Prediction

Prediction of MPE limit at a given distance

$$S = PG/4\pi R^2$$

S = Power density
P = Power input to antenna
G = Power gain to the antenna in the direction of interest relative to an isotropic radiator
R = Distance to the center of radiation of the antenna

3. RESULTS

3-1. Bluetooth(FCC)

Average output Power at antenna input terminal	11.100	dBm
Average output Power at antenna input terminal	12.882	mW
Prediction distance	20.00	cm
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	1.00	dBi
Antenna Gain(numeric)	1.259	-
Power density at prediction frequency(S)	0.003153	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

3-2. Bluetooth(IC)

Average output Power at antenna input terminal	11.100	dBm
Average output Power at antenna input terminal	0.013	W
Prediction distance	0.200	m
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	1.00	dBi
Antenna Gain(numeric)	1.259	-
Power density at prediction frequency(S)	0.0315	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	5.351	mW/cm^2

2.1091(FCC&IC)

EIRP	12.1	(dBm)
ERP	9.95	(dBm)
ERP	0.010	(W)
ERP Limit	3.00	(W)
MARGIN	24.82	(dB)