

# TEST REPORT

FCC MPE Test for FR-R5GAO38ADU  
Certification

**APPLICANT**  
FRTEK CO., LTD.

**REPORT NO.**  
HCT-RF-2011-FC019

**DATE OF ISSUE**  
November 17, 2020

**Tested by**  
Kyung Soo Kang



**Technical Manager**  
Jong Seok Lee



HCT CO., LTD.

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**TEST  
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Additional Model  
-

Applicant	<b>FRTEK CO., LTD.</b> 11-25, Simin-daero 327beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea
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FCC ID	2AFEG-R5GAO38ADU
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Product Name	PrimAer DU28
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Model Name	FR-R5GAO38ADU
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The result shown in this test report refer only to the sample(s) tested unless otherwise stated.  
This test results were applied only to the test methods required by the standard.

## REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	November 17, 2020	Initial Release

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

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## RF Exposure Statement

### 1. Limit

- According to § 1.1310 RF exposure is calculated.

Table 1 – Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	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

## 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

#### [SISO]

EIRP[Radiated Power]	40.00	dBm
EIRP[Radiated Power]	10000.00	mW
Prediction distance	40.00	cm
Prediction frequency	27 500 ~ 28 350	MHz
Power density at prediction frequency (S)	0.4974	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

#### [MIMO]

EIRP[Radiated Power]	43.00	dBm
EIRP[Radiated Power]	19952.62	mW
Prediction distance	40.00	cm
Prediction frequency	27 500 ~ 28 350	MHz
Power density at prediction frequency (S)	0.9924	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>