

TEST REPORT

FCC MPE Test for SDR-AF
Class II Permissive Change

APPLICANT
ADRF KOREA, Inc.

REPORT NO.
HCT-RF-2301-FC033

DATE OF ISSUE
January 13, 2023

Tested by
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<p>TEST REPORT FCC MPE Test for SDR-AF</p>	<p>REPORT NO. HCT-RF-2301-FC033</p> <p>DATE OF ISSUE January 13, 2023</p> <p>Additional Model -</p>
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Applicant	ADRF KOREA, Inc. 5-5, Mojeon-Ri, Backsa-Myun, Icheon-Citi, Kyunggi-Do, Korea
Eut Type Model Name	REPEATER SDR-AF
FCC ID	N52-SDR-AF

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	January 13, 2023	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.

If this report is required to confirmation of authenticity, please contact to www.hct.co.kr

RF Exposure Statement

1. Limit

According to § 1.1310, § 2.1091 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.....	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 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 of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

3. RESULTS

- AWS – 5G NR 20 MHz (Uplink)

Max Peak output Power at antenna input terminal	33.50	dBm
Max Peak output Power at antenna input terminal	2 238.72	mW
Prediction distance	20.00	cm
Prediction frequency	1 710.00	MHz
*Antenna Gain(typical)	-4.90	dBi
*Antenna Gain(numeric)	0.324	-
Power density at prediction frequency(S)	0.1441	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

*Note: Antenna gain includes the cable loss value declared by the manufacturer.

Cable Loss: 24 dB

Final antenna gain: 19.1 dBi – 24 dB = -4.9 dBi

- AWS – 5G NR 20 MHz (Downlink)

Max Peak output Power at antenna input terminal	33.50	dBm
Max Peak output Power at antenna input terminal	2 238.72	mW
Prediction distance	30.00	cm
Prediction frequency	2 110.00	MHz
Antenna Gain(typical)	3.00	dBi
Antenna Gain(numeric)	1.995	-
Power density at prediction frequency(S)	0.3950	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²