

# TEST REPORT

FCC MPE Test for PSR-78-9537-XB  
Certification

**APPLICANT**  
ADRF KOREA, Inc.

**REPORT NO.**  
HCT-RF-2004-FC049-R2

**DATE OF ISSUE**  
May 15, 2020

**HCT Co., Ltd.**

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**TEST  
REPORT**  
FCC MPE Test for  
PSR-78-9537-XB

**REPORT NO.**  
HCT-RF-2004-FC049-R2  
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15 May 2020  
**Additional Model**  
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**Applicant** ADRF KOREA, Inc.  
5-5, Mojeon-Ri, Backsa-Myun, Icheon-Citi, Kyunggi-Do, Korea

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**EUT Type** REPEATER  
**Model Name** PSR-78-9537-XB

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**FCC ID** N52-PSR-78-9537XB

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This test results were applied only to the test methods required by the standard.

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**Tested by**  
Kwang Il Yoon

(signature)

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**Technical Manager**  
Jong Seok Lee

(signature)

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(signature)  
HCT CO., LTD.

*Soo Chan Lee*  
SooChan Lee / CEO

## REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	April 21, 2020	Initial Release
1	April 29, 2020	We have changed the antenna gain.
2	May 15, 2020	We recalculated by adding Cable Loss

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.

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.

## RF Exposure Statement

### 1. LIMITS

According to § 1.1310 and § 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 <sup>2</sup> )	Averaging time (minutes)
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 - 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

## - FirstNet – LTE 5 MHz (Uplink)

Max Peak output Power at antenna input terminal	31.00	dBm
Max Peak output Power at antenna input terminal	1258.93	mW
Prediction distance	200.00	cm
Prediction frequency	790.50	MHz
Antenna Gain(typical)	15.00	dBi
Antenna Gain(numeric)	31.62	-
Cable Loss	7	dB
Power density at prediction frequency( S)	0.0158	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	0.5270	mW/cm <sup>2</sup>

## - FirstNet – LTE 5 MHz (Downlink)

Max Peak output Power at antenna input terminal	38.00	dBm
Max Peak output Power at antenna input terminal	6309.57	mW
Prediction distance	400.00	cm
Prediction frequency	760.50	MHz
Antenna Gain(typical)	2.60	dBi
Antenna Gain(numeric)	1.82	-
Cable Loss	2	dB
Power density at prediction frequency( S)	0.0036	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	0.5070	mW/cm <sup>2</sup>

## - FirstNet – LTE 10 MHz (Uplink)

Max Peak output Power at antenna input terminal	31.00	dBm
Max Peak output Power at antenna input terminal	1258.93	mW
Prediction distance	200.00	cm
Prediction frequency	793.00	MHz
Antenna Gain(typical)	15.00	dBi
Antenna Gain(numeric)	31.62	-
Cable Loss	7	dB
Power density at prediction frequency( S)	0.0158	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	0.5287	mW/cm <sup>2</sup>

## - FirstNet – LTE 10 MHz (Downlink)

Max Peak output Power at antenna input terminal	38.00	dBm
Max Peak output Power at antenna input terminal	6309.57	mW
Prediction distance	400.00	cm
Prediction frequency	763.00	MHz
Antenna Gain(typical)	2.60	dBi
Antenna Gain(numeric)	1.82	-
Cable Loss	2	dB
Power density at prediction frequency( S)	0.0036	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	0.5087	mW/cm <sup>2</sup>