

TEST REPORT

FCC/ISED MPE Test for WLC21SSAK00
Certification

APPLICANT
Hanwha NxMD Corporation

REPORT NO.
HCT-RF-2403-FI002

DATE OF ISSUE
March 28, 2024

Tested by
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Applicant

Hanwha NxMD Corporation

10th floor, 20, Pangyoyeok-ro 241beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea

Product Name

WLAN Module

Model Name

WLC21SSAK00

FCC ID

2BFGU-WLC21SSAK00

Frequency range

2 412 MHz – 2 472 MHz (WLAN)
5 180 MHz – 5 825 MHz (UNII)

Date of Test

January 26, 2024 ~ March 28, 2024

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing

(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

Test Standard Used

FCC Rule: § 1.1310, § 2.1091

Test Results

PASS

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	March 28, 2024	Initial Release

Notice

Content

Engineering Statement:

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.

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

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 - 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

3-1. DTS

Maximum output Power at antenna input terminal	21.00	dBm
Maximum output Power at antenna input terminal	125.89	mW
Prediction distance	20.00	cm
Prediction frequency	2412 – 2472	MHz
Antenna Gain(typical)	1.84	dBi
Antenna Gain(numeric)	1.528	-
Power density at prediction frequency(S)	0.0383	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	22.84	(dBm)
ERP	20.69	(dBm)
ERP	0.117	(W)
ERP Limit	3.00	(W)
MARGIN	14.08	(dB)

3-2. UNII

Maximum output Power at antenna input terminal	13.00	dBm
Maximum output Power at antenna input terminal	19.95	mW
Prediction distance	20.00	cm
Prediction frequency	5180 - 5825	MHz
Antenna Gain(typical)	1.66	dBi
Antenna Gain(numeric)	1.466	-
Power density at prediction frequency(S)	0.0058	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	14.66	(dBm)
ERP	12.51	(dBm)
ERP	0.018	(W)
ERP Limit	3.00	(W)
MARGIN	22.26	(dB)