

TEST REPORT

FCC MPE Test for N20-HRDU_2500_FB_TDD

APPLICANT
SOLiD, Inc.

REPORT NO.
HCT-RF-2107-FC016

DATE OF ISSUE
July 9, 2021

Tested by
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**TEST
REPORT**

FCC MPE Test for
N20-HRDU_2500
_FB_TDD

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Additional Model
-

Applicant **SOLiD, Inc.**
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Gyeonggi-do, 463-400, South Korea

Eut Type DAS
Model Name N20-HRDU_2500_FB_TDD

FCC ID W6UNH25FBTDD

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	July 09, 2021	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

3.1 MPE calculation for standalone operations

- BRS/EBS – LTE 20 MHz (Downlink)

Max Peak output Power at antenna input terminal	44.50	dBm
Max Peak output Power at antenna input terminal	28183.83	mW
Prediction distance	500.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.4496	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS – 5G NR 20 MHz (Downlink)

Max Peak output Power at antenna input terminal	44.50	dBm
Max Peak output Power at antenna input terminal	28183.83	mW
Prediction distance	500.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.4496	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS – 5G NR 40 MHz (Downlink)

Max Peak output Power at antenna input terminal	44.50	dBm
Max Peak output Power at antenna input terminal	28183.83	mW
Prediction distance	500.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.4496	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS – 5G NR 60 MHz (Downlink)

Max Peak output Power at antenna input terminal	44.50	dBm
Max Peak output Power at antenna input terminal	28183.83	mW
Prediction distance	500.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.4496	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS – 5G NR 80 MHz (Downlink)

Max Peak output Power at antenna input terminal	44.50	dBm
Max Peak output Power at antenna input terminal	28183.83	mW
Prediction distance	500.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.4496	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS – 5G NR 100 MHz (Downlink)

Max Peak output Power at antenna input terminal	44.50	dBm
Max Peak output Power at antenna input terminal	28183.83	mW
Prediction distance	500.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.4496	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

3.2 Simultaneous band emission conditions

- BRS/EBS – LTE 20 MHz (Downlink)

Max Peak output Power at antenna input terminal	41.50	dBm
Max Peak output Power at antenna input terminal	14125.38	mW
Prediction distance	500.000	cm
Prediction frequency	2640.00	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.2253	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS – 5G NR 20 MHz (Downlink)

Max Peak output Power at antenna input terminal	41.50	dBm
Max Peak output Power at antenna input terminal	14125.38	mW
Prediction distance	500.000	cm
Prediction frequency	2640.00	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.2253	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

[Downlink]

Band	Signal	MPE Ratio (Power density / Limit)	Sum of MPE Ratio	
BRS/EBS	LTE	0.2253	0.4506	≤ 1
	5G NR	0.2253		

*Note

1. The result of each band was applied to the worst value.
2. MPE ratios are calculated as

$$[(\text{Power density}_1 / \text{MPE Limit}) + [(\text{Power density}_2 / \text{MPE Limit}) + \dots]] \leq 1$$