

TEST REPORT

FCC MPE Test for MRDU_2500_FB_TDD
Certification

APPLICANT
SOLiD, Inc.

REPORT NO.
HCT-RF-2105-FC004

DATE OF ISSUE
May 20, 2021

Tested by
Kyung Soo Kang



Technical Manager
Jong Seok Lee



HCT CO., LTD.
BongJai Huh
BongJai Huh / CEO



HCT Co., Ltd.

74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA
Tel. +82 31 634 6300 Fax. +82 31 645 6401

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MRDU_2500_FB_TDD

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Additional Model

-

Applicant

SOLiD, Inc.

10, 9th Floor, SOLiD Space, Pangyoyeok-ro 220, Bundang-gu, Seongnam-si,
Gyeonggi-do, 463-400, South Korea

**Eut Type
Model Name**

DAS
MRDU_2500_FB_TDD

FCC ID

W6UHM25GFBTDD

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	May 20, 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.

* The report shall not be reproduced except in full(only partly) without approval of the laboratory.

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 United – LTE 20 MHz (Downlink)

Max Peak output Power at antenna input terminal	38.50	dBm
Max Peak output Power at antenna input terminal	7079.46	mW
Prediction distance	170.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.9770	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS United – 5G NR 20 MHz (Downlink)

Max Peak output Power at antenna input terminal	38.50	dBm
Max Peak output Power at antenna input terminal	7079.46	mW
Prediction distance	170.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.9770	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS United – 5G NR 40 MHz (Downlink)

Max Peak output Power at antenna input terminal	38.50	dBm
Max Peak output Power at antenna input terminal	7079.46	mW
Prediction distance	170.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.9770	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS United – 5G NR 60 MHz (Downlink)

Max Peak output Power at antenna input terminal	38.50	dBm
Max Peak output Power at antenna input terminal	7079.46	mW
Prediction distance	170.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.9770	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS United – 5G NR 80 MHz (Downlink)

Max Peak output Power at antenna input terminal	38.50	dBm
Max Peak output Power at antenna input terminal	7079.46	mW
Prediction distance	170.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.9770	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS United – 5G NR 100 MHz (Downlink)

Max Peak output Power at antenna input terminal	38.50	dBm
Max Peak output Power at antenna input terminal	7079.46	mW
Prediction distance	170.00	cm
Prediction frequency	2550.44	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.9770	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

3.2 Simultaneous band emission conditions

- BRS/EBS United – LTE 20 MHz (Downlink)

Max Peak output Power at antenna input terminal	35.50	dBm
Max Peak output Power at antenna input terminal	3548.13	mW
Prediction distance	170.00	cm
Prediction frequency	2640.00	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.4897	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

- BRS/EBS United – 5G NR 20 MHz (Downlink)

Max Peak output Power at antenna input terminal	35.50	dBm
Max Peak output Power at antenna input terminal	3548.13	mW
Prediction distance	170.00	cm
Prediction frequency	2640.00	MHz
Antenna Gain(typical)	17.00	dBi
Antenna Gain(numeric)	50.12	-
Power density at prediction frequency(S)	0.4897	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 United	LTE	0.4897	0.9794	≤ 1
	5G NR	0.4897		

*Note

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

$$[(\text{Power density1} / \text{MPE Limit}) + [(\text{Power density2} / \text{MPE Limit}) + \dots] \leq 1$$