

# TEST REPORT

FCC MPE Test for HRDU\_345  
Certification

**APPLICANT**  
SOLiD, Inc.

**REPORT NO.**  
HCT-RF-2301-FC002

**DATE OF ISSUE**  
January 3, 2023

**Tested by**  
Sang Su Lee



**Technical Manager**  
Jong Seok Lee



**HCT CO., LTD.**  
*BongJai Huh*  
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# TEST REPORT

FCC MPE Test for  
HRDU\_345

**REPORT NO.**

HCT-RF-2301-FC002

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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**

HRDU  
HRDU\_345

**FCC ID**

W6UNH345

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 03, 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](http://www.hct.co.kr)

## 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

### 3. Result

- C-Band 5G NR 20 MHz (Ant1, Outdoor) (Downlink)

Max Peak output Power at antenna input terminal	44.00	dBm
Max Peak output Power at antenna input terminal	25 118.86	mW
Prediction distance	450.00	cm
Prediction frequency	3 450.00	MHz
Antenna Gain(typical)	12.00	dBi
Antenna Gain(numeric)	15.85	-
Power density at prediction frequency(S)	0.1564	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

- C-Band 5G NR 40 MHz (Ant1, Outdoor) (Downlink)

Max Peak output Power at antenna input terminal	44.00	dBm
Max Peak output Power at antenna input terminal	25 118.86	mW
Prediction distance	450.00	cm
Prediction frequency	3 450.00	MHz
Antenna Gain(typical)	12.00	dBi
Antenna Gain(numeric)	15.85	-
Power density at prediction frequency(S)	0.1564	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

## - C-Band 5G NR 60 MHz (Ant1, Outdoor) (Downlink)

Max Peak output Power at antenna input terminal	44.00	dBm
Max Peak output Power at antenna input terminal	25 118.86	mW
Prediction distance	450.00	cm
Prediction frequency	3 450.00	MHz
Antenna Gain(typical)	12.00	dBi
Antenna Gain(numeric)	15.85	-
Power density at prediction frequency(S)	0.1564	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

## - C-Band 5G NR 80 MHz (Ant1, Outdoor) (Downlink)

Max Peak output Power at antenna input terminal	44.00	dBm
Max Peak output Power at antenna input terminal	25 118.86	mW
Prediction distance	450.00	cm
Prediction frequency	3 450.00	MHz
Antenna Gain(typical)	12.00	dBi
Antenna Gain(numeric)	15.85	-
Power density at prediction frequency(S)	0.1564	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

## - C-Band 5G NR 100 MHz (Ant1, Outdoor) (Downlink)

Max Peak output Power at antenna input terminal	44.00	dBm
Max Peak output Power at antenna input terminal	25 118.86	mW
Prediction distance	450.00	cm
Prediction frequency	3 450.00	MHz
Antenna Gain(typical)	12.00	dBi
Antenna Gain(numeric)	15.85	-
Power density at prediction frequency(S)	0.1564	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

## - C-Band 5G NR 20 MHz (2Tx MIMO, Outdoor) (Downlink)

Max Peak output Power at antenna input terminal	47.00	dBm
Max Peak output Power at antenna input terminal	50 118.72	mW
Prediction distance	450.00	cm
Prediction frequency	3 450.00	MHz
Antenna Gain(typical)	15.00	dBi
Antenna Gain(numeric)	31.62	-
Power density at prediction frequency(S)	0.6228	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

## - C-Band 5G NR 40 MHz (2Tx MIMO, Outdoor) (Downlink)

Max Peak output Power at antenna input terminal	47.00	dBm
Max Peak output Power at antenna input terminal	50 118.72	mW
Prediction distance	450.00	cm
Prediction frequency	3 450.00	MHz
Antenna Gain(typical)	15.00	dBi
Antenna Gain(numeric)	31.62	-
Power density at prediction frequency(S)	0.6228	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>



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Antenna Gain(typical)	15.00	dBi
Antenna Gain(numeric)	31.62	-
Power density at prediction frequency(S)	0.6228	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

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Antenna Gain(typical)	15.00	dBi
Antenna Gain(numeric)	31.62	-
Power density at prediction frequency(S)	0.6228	mW/cm <sup>2</sup>
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## - C-Band 5G NR 100 MHz (2Tx MIMO, Outdoor) (Downlink)

Max Peak output Power at antenna input terminal	47.00	dBm
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Prediction distance	450.00	cm
Prediction frequency	3 450.00	MHz
Antenna Gain(typical)	15.00	dBi
Antenna Gain(numeric)	31.62	-
Power density at prediction frequency(S)	0.6228	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

## - C-Band 5G NR 20 MHz (Ant1, Indoor) (Downlink)

Max Peak output Power at antenna input terminal	44.00	dBm
Max Peak output Power at antenna input terminal	25 118.86	mW
Prediction distance	60.00	cm
Prediction frequency	3 450.00	MHz
*Total Antenna Gain(typical)	-16.00	dBi
Total Antenna Gain(numeric)	0.03	-
Power density at prediction frequency(S)	0.0139	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

\* Total Antenna Gain = Maximum Antenna Gain + Cable Loss

## - C-Band 5G NR 40 MHz (Ant1, Indoor) (Downlink)

Max Peak output Power at antenna input terminal	44.00	dBm
Max Peak output Power at antenna input terminal	25 118.86	mW
Prediction distance	60.00	cm
Prediction frequency	3 450.00	MHz
*Total Antenna Gain(typical)	-16.00	dBi
Total Antenna Gain(numeric)	0.03	-
Power density at prediction frequency(S)	0.0139	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

\* Total Antenna Gain = Maximum Antenna Gain + Cable Loss

## - C-Band 5G NR 60 MHz (Ant1, Indoor) (Downlink)

Max Peak output Power at antenna input terminal	44.00	dBm
Max Peak output Power at antenna input terminal	25 118.86	mW
Prediction distance	60.00	cm
Prediction frequency	3 450.00	MHz
*Total Antenna Gain(typical)	-16.00	dBi
Total Antenna Gain(numeric)	0.03	-
Power density at prediction frequency(S)	0.0139	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

\* Total Antenna Gain = Maximum Antenna Gain + Cable Loss

## - C-Band 5G NR 80 MHz (Ant1, Indoor) (Downlink)

Max Peak output Power at antenna input terminal	44.00	dBm
Max Peak output Power at antenna input terminal	25 118.86	mW
Prediction distance	60.00	cm
Prediction frequency	3 450.00	MHz
*Total Antenna Gain(typical)	-16.00	dBi
Total Antenna Gain(numeric)	0.03	-
Power density at prediction frequency(S)	0.0139	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

\* Total Antenna Gain = Maximum Antenna Gain + Cable Loss

## - C-Band 5G NR 100 MHz (Ant1, Indoor) (Downlink)

Max Peak output Power at antenna input terminal	44.00	dBm
Max Peak output Power at antenna input terminal	25 118.86	mW
Prediction distance	60.00	cm
Prediction frequency	3 450.00	MHz
*Total Antenna Gain(typical)	-16.00	dBi
Total Antenna Gain(numeric)	0.03	-
Power density at prediction frequency(S)	0.0139	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

\* Total Antenna Gain = Maximum Antenna Gain + Cable Loss

## - C-Band 5G NR 20 MHz (2Tx MIMO, Indoor) (Downlink)

Max Peak output Power at antenna input terminal	47.00	dBm
Max Peak output Power at antenna input terminal	50 118.72	mW
Prediction distance	60.00	cm
Prediction frequency	3 450.00	MHz
*Total Antenna Gain(typical)	-13.00	dBi
Total Antenna Gain(numeric)	0.05	-
Power density at prediction frequency(S)	0.0555	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

\* Total Antenna Gain = Maximum Antenna Gain + Cable Loss

## - C-Band 5G NR 40 MHz (2Tx MIMO, Indoor) (Downlink)

Max Peak output Power at antenna input terminal	47.00	dBm
Max Peak output Power at antenna input terminal	50 118.72	mW
Prediction distance	60.00	cm
Prediction frequency	3 450.00	MHz
*Total Antenna Gain(typical)	-13.00	dBi
Total Antenna Gain(numeric)	0.05	-
Power density at prediction frequency(S)	0.0555	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

\* Total Antenna Gain = Maximum Antenna Gain + Cable Loss

## - C-Band 5G NR 60 MHz (2Tx MIMO, Indoor) (Downlink)

Max Peak output Power at antenna input terminal	47.00	dBm
Max Peak output Power at antenna input terminal	50 118.72	mW
Prediction distance	60.00	cm
Prediction frequency	3 450.00	MHz
*Total Antenna Gain(typical)	-13.00	dBi
Total Antenna Gain(numeric)	0.05	-
Power density at prediction frequency(S)	0.0555	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

\* Total Antenna Gain = Maximum Antenna Gain + Cable Loss

## - C-Band 5G NR 80 MHz (2Tx MIMO, Indoor) (Downlink)

Max Peak output Power at antenna input terminal	47.00	dBm
Max Peak output Power at antenna input terminal	50 118.72	mW
Prediction distance	60.00	cm
Prediction frequency	3 450.00	MHz
*Total Antenna Gain(typical)	-13.00	dBi
Total Antenna Gain(numeric)	0.05	-
Power density at prediction frequency(S)	0.0555	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

\* Total Antenna Gain = Maximum Antenna Gain + Cable Loss

## - C-Band 5G NR 100 MHz (2Tx MIMO, Indoor) (Downlink)

Max Peak output Power at antenna input terminal	47.00	dBm
Max Peak output Power at antenna input terminal	50 118.72	mW
Prediction distance	60.00	cm
Prediction frequency	3 450.00	MHz
*Total Antenna Gain(typical)	-13.00	dBi
Total Antenna Gain(numeric)	0.05	-
Power density at prediction frequency(S)	0.0555	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

\* Total Antenna Gain = Maximum Antenna Gain + Cable Loss