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TEST REPORT

FCC MPE Test for RF2217d-D1A

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2102-FC066-R1

DATE OF ISSUE
May 18, 2021

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Additional Model
-

Applicant	**SAMSUNG Electronics Co., Ltd.** 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Eut Type Model Name	RRU(RF2217d) RF2217d-D1A
FCC ID	A3LRF2217D-D1A

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 04, 2021	Initial Release
1	May 18, 2021	We recalculated.

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^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

5G NR n2, 5 MHz 1 Carrier

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	1932.50	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n2, 10 MHz 1 Carrier

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	1935.00	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n2, 15 MHz 1 Carrier

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	1937.50	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n2, 20 MHz 1 Carrier

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	1940.00	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n5, 5 MHz 1 Carrier

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	871.50	MHz
Antenna gain (typical)	4.500	dBi
Antenna gain (numeric)	2.818	-
Power density at prediction frequency(S)	0.2232	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.5810	mW/cm^2

5G NR n5, 10 MHz 1 Carrier

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	874.00	MHz
Antenna gain (typical)	4.500	dBi
Antenna gain (numeric)	2.818	-
Power density at prediction frequency(S)	0.2232	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.5827	mW/cm^2

5G NR n2 5 MHz 1 Carrier + 5G NR n2 5 MHz 1 Carrier [2 Carrier] (Contiguous)

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	1935.00	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n2 5 MHz 1 Carrier + 5G NR n2 10 MHz 1 Carrier [2 Carrier] (Contiguous)

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	1937.50	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n2 5 MHz 1 Carrier + 5G NR n2 15 MHz 1 Carrier [2 Carrier] (Contiguous)

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	1940.00	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n2 10 MHz 1 Carrier + 5G NR n2 10 MHz 1 Carrier [2 Carrier] (Contiguous)

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	1940.00	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n2 5 MHz 1 Carrier + 5G NR n2 5 MHz 1 Carrier [2 Carrier] (Non-Contiguous)

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	1932.50	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n2 5 MHz 1 Carrier + 5G NR n2 10 MHz 1 Carrier [2 Carrier] (Non-Contiguous)

Max Peak output Power at antenna input terminal	26.00	dBm
Max Peak output Power at antenna input terminal	398.11	mW
Prediction distance	20.00	cm
Prediction frequency	1932.50	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n2 5 MHz 1 Carrier + 5G NR n2 15 MHz 1 Carrier [2 Carrier] (Non-Contiguous)

Max Peak output Power at antenna input terminal	26.00	dBm
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Prediction distance	20.00	cm
Prediction frequency	1932.50	MHz
Antenna gain (typical)	5.000	dBi
Antenna gain (numeric)	3.162	-
Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

5G NR n2 10 MHz 1 Carrier + 5G NR n2 10 MHz 1 Carrier [2 Carrier] (Non-Contiguous)

Max Peak output Power at antenna input terminal	26.00	dBm
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Antenna gain (typical)	5.000	dBi
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Power density at prediction frequency(S)	0.2505	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

Simultaneous band emission conditions

5G NR n2 (0.2505/1.0000) + 5G NR n5 (0.2232/0.5827)= 0.6335 < 1