

FCC MPE REPORT

Certification

Applicant Name:

SAMSUNG Electronics Co., Ltd.

Address:

129, Samsung-ro, Yeongtong-gu,

Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Date of Issue:

February 28, 2019

Test Site/Location:

HCT CO., LTD., 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

Report No.: HCT-RF-1902-FC062**FCC ID:****A3LRT2201-46A****APPLICANT:****SAMSUNG Electronics Co., Ltd.****Model:**

RT2201-46A

EUT Type:

RT2201

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.


Report prepared by : Kwon Jeong

Engineer of telecommunication testing center


Approved by : Jong Seok Lee

Manager of telecommunication testing center

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-1902-FC062	February 28, 2019	- First Approval Report

RF Exposure Statement

1. Limit

- According to § 1.1310 RF exposure is calculated.

Table 1 – Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
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 6 dBi Results

- UNII1

Max peak output power at antenna input terminal (dBm)	29.000	dBm
Max peak output power at antenna input terminal (mW)	794.328	mW
Prediction distance	20.000	cm
Prediction frequency	5 170.0	MHz
Antenna gain (typical)	6.00	dBi
Antenna gain (numeric)	3.981	-
Power density at prediction frequency	0.6291	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	35.00 (dBm)
ERP	32.85 (dBm)
ERP	1.928 (W)
ERP Limit	3.00 (W)
MARGIN	1.92 (dB)

- UNII3

Max peak output power at antenna input terminal (dBm)	30.000	dBm
Max peak output power at antenna input terminal (mW)	1000.000	mW
Prediction distance	20.000	cm
Prediction frequency	5 735.0	MHz
Antenna gain (typical)	6.00	dBi
Antenna gain (numeric)	3.981	-
Power density at prediction frequency	0.7920	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	36.00 (dBm)
ERP	33.85 (dBm)
ERP	2.427 (W)
ERP Limit	3.00 (W)
MARGIN	0.92 (dB)

3.2 9 dBi Results

- UNII1

Max peak output power at antenna input terminal (dBm)	26.50	dBm
Max peak output power at antenna input terminal (mW)	446.6834	mW
Prediction distance	20.000	cm
Prediction frequency	5 230.0	MHz
Antenna gain (typical)	9.00	dBi
Antenna gain (numeric)	7.943	-
Power density at prediction frequency	0.7059	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	35.50 (dBm)
ERP	33.35 (dBm)
ERP	2.163 (W)
ERP Limit	3.00 (W)
MARGIN	1.42 (dB)

- UNII3

Max peak output power at antenna input terminal (dBm)	27.000	dBm
Max peak output power at antenna input terminal (mW)	501.187	mW
Prediction distance	20.000	cm
Prediction frequency	5 735.0	MHz
Antenna gain (typical)	9.00	dBi
Antenna gain (numeric)	7.943	-
Power density at prediction frequency	0.7920	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	36.00 (dBm)
ERP	33.85 (dBm)
ERP	2.427 (W)
ERP Limit	3.00 (W)
MARGIN	0.92 (dB)