

TEST REPORT

FCC/IC MPE Test for LCU-001

Certification

APPLICANT

LG Electronics Inc.

REPORT NO.

HCT-RF-2001-FI001

DATE OF ISSUE

20 January 2020

HCT Co., Ltd.

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



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for LCU-001

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FCC ID/IC
BEJ-LCU001/2703N-LCU001

Applicant

LG Electronics Inc.
170, Seongsanpaechong-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-

Eut Type
Model Name

UWB Module
LCU-001

This test results were applied only to the test methods required by the standard.

Tested by
Kyung Soo Kang

(signature)

Technical Manager
Jong Seok Lee

(signature)

HCT CO., LTD.

Soo Chan Lee
SooChan Lee / CEO

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	20 January 2020	Initial Release

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.

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/IC Rules under normal use and maintenance.

RF Exposure Statement

1. IC LIMITS

According to RSS-102 RF exposure is calculated.

Table 4: RF Field Strength Limits for Devices Used by the General Public
(Uncontrolled Environment)

Frequency range (MHz)	Electric field strength (V/m rms)	Magnetic field strength (A/m rms)	Power density (W/m ²)	Averaging time (minutes)
000.3-10	83	90	-	Instantaneous*
0.1-10	-	0.73 / f	-	6**
1.1-10	87 / f ^{0.5}	-	-	6**
10-20	27.46	0.0728	-2	6
20-48	58.07 / f ^{0.25}	0.1540 / f ^{0.25}	8.944 / f ^{0.5}	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 f ^{0.3417}	0.008335 f ^{0.3417}	0.02619 f ^{0.6834}	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000 / f ^{1.2}
150000-300000	0.158 f ^{0.5}	4.21 x 10 ⁻⁴ f ^{0.5}	6.67 x 10 ⁻⁵ f	616000 / f ^{1.2}

Note: f is frequency in MHz.

* Based on nerve stimulation (NS).

** Based on specific absorption rate (SAR).

2. FCC 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

3. MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance

$$S = PG/4\pi R^2 \text{ or } S = EIRP/4\pi R^2$$

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

1. FCC/IC MPE RESULT

- UWB

EIRP(Radiated Power)	-34.00	dBm
EIRP(Radiated Power)	0.0004	mW
Prediction distance	20.00	cm
Prediction frequency	6494.5	MHz
Power density at prediction frequency(S)	0.0000001	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.00	mW/cm ²