

TEST REPORT

FCC MPE Test for LAIWB3

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2207-FI004-R1

DATE OF ISSUE
July 22, 2022

Tested by
Kyung Jun Woo



Technical Manager
Seul Ki 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



TEST REPORT

FCC MPE Test for
LAIWB3

REPORT NO.

HCT-RF-2207-FI004-R1

DATE OF ISSUE

July 22, 2022

Additional Model

-

Applicant

LG Electronics Inc.

170, Seongsanpaechong-ro, Seongsan-gu, Changwon-si Gyeongsangnam-do
51533 Republic of Korea

Eut Type
Model Name

RF Module
LAIWB3

FCC ID

BEJ-LAIWB3

Frequency range

2 402 MHz ~ 2 480 MHz (Bluetooth)
2 412 MHz ~ 2 462 MHz (WLAN)

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	July 14, 2022	Initial Release
1	July 22, 2022	Page 2, Revised(Applicant)

Engineering Statement:

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

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 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. Bluetooth, BT LE

Peak output Power at antenna input terminal	8.00	dBm
Peak output Power at antenna input terminal	6.31	mW
Prediction distance	20.000	cm
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	2.60	dBi
Antenna Gain(numeric)	1.820	-
Power density at prediction frequency(S)	0.0023	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	10.60	(dBm)
ERP	8.45	(dBm)
ERP	0.007	(W)
ERP Limit	3.00	(W)
MARGIN	26.32	(dB)

3-2. DTS

Peak output Power at antenna input terminal	18.00	dBm
Peak output Power at antenna input terminal	63.10	mW
Prediction distance	20.000	cm
Prediction frequency	2412 – 2472	MHz
Antenna Gain(typical)	2.60	dBi
Antenna Gain(numeric)	1.820	-
Power density at prediction frequency(S)	0.0228	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	20.60	(dBm)
ERP	18.45	(dBm)
ERP	0.070	(W)
ERP Limit	3.00	(W)
MARGIN	16.32	(dB)

Worst Case: Simultaneous MPE 20cm is

$$2.4G\ WLAN\ (0.0228) + BT\ (0.0023) = 0.0046 < 1$$