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HCT

TEST REPORT

FCC MPE Test for LAIWB4
Certification

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2308-FI007

DATE OF ISSUE
August 17, 2023

Tested by
Kyung Jun Woo



Technical Manager
Jong Seok Lee

Accredited by KOLAS, Republic of KOREA

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Additional Model

-

Applicant

LG Electronics Inc.

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

Eut Type
Model Name

RF Module
LAIWB4

FCC ID

BEJ-LAIWB4

Frequency range

2 402 MHz – 2 480 MHz (Bluetooth)
2 402 MHz – 2 480 MHz (Bluetooth LE)
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.

This laboratory is not accredited for the test results marked *.

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	August 17, 2023	Initial Release

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

KOLAS Statement:

The above Test Report is the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA. (KOLAS Accreditation No. KT197)

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

Average output Power at antenna input terminal	8.00	dBm
Average output Power at antenna input terminal	6.31	mW
Prediction distance	20.000	cm
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	2.600	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

Average output Power at antenna input terminal	18.50	dBm
Average output Power at antenna input terminal	70.79	mW
Prediction distance	20.000	cm
Prediction frequency	2412 – 2462	MHz
Antenna Gain(typical)	2.600	dBi
Antenna Gain(numeric)	1.820	-
Power density at prediction frequency(S)	0.0256	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	21.10	(dBm)
ERP	18.95	(dBm)
ERP	0.079	(W)
ERP Limit	3.00	(W)
MARGIN	15.82	(dB)

Simultaneous transmission operations

$$\sum_{i=1}^n \frac{\text{Power density } i}{\text{Limit } i} < 1$$

->Simultaneous MPE 20cm is Bluetooth (0.0023/1.0) + 2.4G WLAN (0.0256/1.0) = 0.0279 < 1