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TEST REPORT

FCC MPE Test for LGSBWAX12
Certification

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2101-FC016

DATE OF ISSUE
January 7, 2021

Tested by
Jin Gwan Lee

Technical Manager
Jong Seok Lee

Accredited by KOLAS, Republic of KOREA

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Additional Model
-

Applicant	**LG Electronics Inc.** 222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, 451-713, Korea
Eut Type	RF Module
Model Name	LGSBWAX12
FCC ID	BEJLGSBWAX12
Date of Receipt	December 01, 2020
Frequency range	5 925 MHz ~ 7 215 MHz

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	January 07, 2021	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

This laboratory is not accredited for the test results marked *.
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.(HCT Accreditation No.: KT197)

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. BT LE

Average output Power at antenna input terminal	9.00	dBm
Average output Power at antenna input terminal	7.94	mW
Prediction distance	20.00	cm
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	1.190	dBi
Antenna Gain(numeric)	1.315	-
Power density at prediction frequency(S)	0.0021	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	10.19	(dBm)
ERP	8.04	(dBm)
ERP	0.006	(W)
ERP Limit	3.00	(W)
MARGIN	26.73	(dB)

3-2. DTS_Ant.2

Average output Power at antenna input terminal	18.50	dBm
Average output Power at antenna input terminal	70.79	mW
Prediction distance	20.00	cm
Prediction frequency	2412 – 2472	MHz
Antenna Gain(typical)	1.500	dBi
Antenna Gain(numeric)	1.423	-
Power density at prediction frequency(S)	0.0199	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	20.00	(dBm)
ERP	17.85	(dBm)
ERP	0.061	(W)
ERP Limit	3.00	(W)
MARGIN	16.92	(dB)

3-3. 15E 6 GHz Low Power Indoor Client (6XD)_Ant.1

Average output Power at antenna input terminal	12.00	dBm
Average output Power at antenna input terminal	15.85	mW
Prediction distance	20.00	cm
Prediction frequency	5 925 ~ 7 215	MHz
Antenna Gain(typical)	0.910	dBi
Antenna Gain(numeric)	1.233	-
Power density at prediction frequency(S)	0.0039	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

2.1091

EIRP	12.91	(dBm)
ERP	10.76	(dBm)
ERP	0.012	(W)
ERP Limit	3.00	(W)
MARGIN	24.01	(dB)

3-3. 15E 6 GHz Low Power Indoor Client (6XD)_MIMO

Average output Power at antenna input terminal	12.00	dBm
Average output Power at antenna input terminal	15.85	mW
Prediction distance	20.00	cm
Prediction frequency	5 925 ~ 7 215	MHz
Antenna Gain(typical)	4.180	dBi
Antenna Gain(numeric)	2.618	-
Power density at prediction frequency(S)	0.0083	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

2.1091

EIRP	16.18	(dBm)
ERP	14.03	(dBm)
ERP	0.025	(W)
ERP Limit	3.00	(W)
MARGIN	20.74	(dB)

Worst Case: Simultaneous MPE 20cm is

6G WLAN_MIMO (0.0083) + BT LE (0.0021) = 0.0104 < 1

6G WLAN_Ant.1 (0.0039) + 2.4G WLAN_Ant.2 (0.0199) + BT LE (0.0021) = 0.0259 < 1