

FCC MPE REPORT

Certification

Applicant Name:
LG Electronics Inc.

Address:
222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, 451-713, Korea

Date of Issue:
February 11, 2019

Location:
HCT CO., LTD.,
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Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
Report No.: HCT-RF-1902-FI011

FCC ID: BJEIR12PT

APPLICANT: LG Electronics Inc.

Model: IR12PT

EUT Type: DISPLAY ASM-VIDEO-RSID1

The measurements shown in this report were made in accordance with the procedures specified in §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S.C. 853(a)



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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-1902-FI011	February 11, 2019	- First Approval Report

RF Exposure Statement

1. 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

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 of 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

Average output Power at antenna input terminal	4.000	dBm
Average output Power at antenna input terminal	2.512	mW
Prediction distance	20.000	cm
Prediction frequency	2 402 ~ 2 080	MHz
Antenna Gain(typical)	5.680	dBi
Antenna Gain(numeric)	3.698	-
Power density at prediction frequency(S)	0.001848	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

2.1091

EIRP	9.68 (dBm)
ERP	7.53 (dBm)
ERP	0.006 (W)
ERP Limit	1.50 (W)
MARGIN	24.23 (dB)

3-2. DTS

Average output Power at antenna input terminal	19.000	dBm
Average output Power at antenna input terminal	79.433	mW
Prediction distance	20.000	cm
Prediction frequency	2 412 ~ 2 472	MHz
Antenna Gain(typical)	6.050	dBi
Antenna Gain(numeric)	4.027	-
Power density at prediction frequency(S)	0.063640	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

2.1091

EIRP	25.05 (dBm)
ERP	22.90 (dBm)
ERP	0.195 (W)
ERP Limit	1.50 (W)
MARGIN	8.86 (dB)

3-3. 5 GHz Band(UNII 1)

Average output Power at antenna input terminal	7.500	dBm
Average output Power at antenna input terminal	5.623	mW
Prediction distance	20.000	cm
Prediction frequency	5 150 ~ 5 250	MHz
Antenna Gain(typical)	8.120	dBi
Antenna Gain(numeric)	6.486	-
Power density at prediction frequency(S)	0.007257	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

2.1091

EIRP	15.62 (dBm)
ERP	13.47 (dBm)
ERP	0.02 (W)
ERP Limit	1.50 (W)
MARGIN	18.29 (dB)

3-6. 5 GHz Band(UNII 3)

Average output Power at antenna input terminal	21.500	dBm
Average output Power at antenna input terminal	141.254	mW
Prediction distance	20.000	cm
Prediction frequency	5725 ~ 5850	MHz
Antenna Gain(typical)	7.870	dBi
Antenna Gain(numeric)	6.124	-
Power density at prediction frequency(S)	0.172080	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

2.1091

EIRP	29.37 (dBm)
ERP	27.22 (dBm)
ERP	0.527 (W)
ERP Limit	1.50 (W)
MARGIN	4.54 (dB)

-> **Worst Case: Simultaneous MPE 20cm is**

->Simultaneous MPE 20cm is + WLAN(5 GHz) (0.172080/1.0) + Bluetooth (0.001848/1.0) = 0.173928 < 1