HCT CO.,LTD.
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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:
January 28, 2019
Location:
HCT CO., LTD.,
74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
Report No.: HCT-RF-1901-FI001

FCC ID:	**BEJI17S**
APPLICANT:	**LG Electronics Inc.**

Model:	I17S
EUT Type:	GM AVN CADILLAC

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)

Report prepared by : Kwon Jeong
Engineer of Telecommunication testing center

Approved by : Jong Seok Lee
Manager of Telecommunication testing center

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-1901-FI001	January 28, 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	4.00	dBm
Average output Power at antenna input terminal	2.512	mW
Prediction distance	20.000	cm
Prediction frequency	2402 ~ 2480	MHz
Antenna Gain(typical)	4.34	dBi
Antenna Gain(numeric)	2.716	-
Power density at prediction frequency(S)	0.001357	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	8.34 (dBm)
ERP	6.19 (dBm)
ERP	0.004 (W)
ERP Limit	3.00 (W)
MARGIN	28.58 (dB)

3-2. DTS

Average output Power at antenna input terminal	20.00	dBm
Average output Power at antenna input terminal	100.00	mW
Prediction distance	20.000	cm
Prediction frequency	2 412 ~ 2 472	MHz
Antenna Gain(typical)	4.34	dBi
Antenna Gain(numeric)	2.716	-
Power density at prediction frequency(S)	0.054042	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	24.34 (dBm)
ERP	22.19 (dBm)
ERP	0.166 (W)
ERP Limit	3.00 (W)
MARGIN	12.58 (dB)

3-3. 5 GHz Band(UNII 1)

Average output Power at antenna input terminal	16.50	dBm
Average output Power at antenna input terminal	44.668	mW
Prediction distance	20.000	cm
Prediction frequency	5 150 ~ 5 250	MHz
Antenna Gain(typical)	3.88	dBi
Antenna Gain(numeric)	2.443	-
Power density at prediction frequency(S)	0.021714	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	20.38	(dBm)
ERP	18.23	(dBm)
ERP	0.067	(W)
ERP Limit	3.00	(W)
MARGIN	16.54	(dB)

3-4. 5 GHz Band(UNII 2A)

Average output Power at antenna input terminal	16.50	dBm
Average output Power at antenna input terminal	44.668	mW
Prediction distance	20.000	cm
Prediction frequency	5 250 ~ 5 350	MHz
Antenna Gain(typical)	3.88	dBi
Antenna Gain(numeric)	2.443	-
Power density at prediction frequency(S)	0.021714	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	20.38	(dBm)
ERP	18.23	(dBm)
ERP	0.067	(W)
ERP Limit	3.00	(W)
MARGIN	16.54	(dB)

3-5. 5 GHz Band(UNII 2C)

Average output Power at antenna input terminal	20.00	dBm
Average output Power at antenna input terminal	100.00	mW
Prediction distance	20.000	cm
Prediction frequency	5 470 ~ 5 725	MHz
Antenna Gain(typical)	4.54	dBi
Antenna Gain(numeric)	2.844	-
Power density at prediction frequency(S)	0.056589	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	24.54	(dBm)
ERP	22.39	(dBm)
ERP	0.173	(W)
ERP Limit	3.00	(W)
MARGIN	12.38	(dB)

3-6. 5 GHz Band(UNII 3)

Average output Power at antenna input terminal	20.00	dBm
Average output Power at antenna input terminal	100.00	mW
Prediction distance	20.000	cm
Prediction frequency	5 725 ~ 5 850	MHz
Antenna Gain(typical)	4.22	dBi
Antenna Gain(numeric)	2.642	-
Power density at prediction frequency(S)	0.052569	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	24.22	(dBm)
ERP	22.07	(dBm)
ERP	0.161	(W)
ERP Limit	3.00	(W)
MARGIN	12.70	(dB)

-> Worst Case: Simultaneous MPE 20cm is

->Simultaneous MPE 20cm is WLAN(2.4 GHz) (0.054042/1.0) + Bluetooth (0.001357/1.0) = 0.055399 < 1

->Simultaneous MPE 20cm is + WLAN(5 GHz) (0.056589/1.0) + Bluetooth (0.001357/1.0) = 0.057946 < 1

->Simultaneous MPE 20cm is + WLAN(5 GHz) (0.056589/1.0) + WLAN(2.4GHz)(0.054042/1.0) + Bluetooth (0.001357/1.0) = 0.111988 < 1