Maximum Permissible Exposure Report

FCC ID: 2AB9W-PP150XP

Report No.	:	BTL-FCCP-3-1908T080
Equipment	:	3D Printer
Model Name	:	PartPro150 xP
Brand Name	:	XYZprinting
Applicant	:	XYZprinting, Inc.
Address	:	10F., No.99, Sec. 5, Nanjing E. Rd.,Songshan Dist., Taipei City 10571, Taiwan (R.O.C.)
Manufacturer	:	Cal-Comp Electronics (Thailand) Public Company Limited
Address	:	138, Moo 4, Phechkasem Road, Sapang, Koawyoi, Petchaburi 76140, Thailand.
Factory	:	Cal-Comp Electronics (Thailand) Public Company Limited
Address	:	138, Moo 4, Phechkasem Road, Sapang, Koawyoi, Petchaburi 76140, Thailand.
FCC Rule Part(s)	:	FCC Guidelines for Human Exposure IEEE C95.1
Date of Receipt	:	2019/9/20
Date of Test	:	2019/9/20 ~ 2019/11/14
Issued Date	:	2020/1/9

The above equipment has been tested and found in compliance with the requirement of the above standards by BTL Inc.

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	2019/12/19
R01	Revised report to address TCB's comments.	2019/12/23
R02	Revised report to address TCB's comments.	2020/1/9

MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

where:
S = power density
P = power input to the 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

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PCB	N/A	-8.65

TEST RESULTS

For WLAN:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
-8.65	0.1365	13.5	22.3872	0.00060807	1	Complies

Note: The calculated distance is 20 cm.

For NFC:

Limits to Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3 to 3.0	614	1.63	100 (Note 2)	6
3.0 to 30	1842/f	4.89/f	$900/f^2$ (Note 2)	6
30 to 300	61.4	0.163	1.0	6
300 to 1500	-	-	f/300	6
1500 to 100,000	-	-	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3 to 1.34	614	1.63	100 (Note 2)	30
1.34 to 30	824/f	2.19/f	$180/f^2$ (Note 2)	30
30 to 300	27.5	0.073	0.2	30
300 to 1500	-	-	f/1500	30
1500 to 100,000	-	-	1.0	30

Notes:
1. f = frequency in MHz
2. Power density is plane wave equivalent power density.

Max H-field strength (dBuV/m)	E-field strength (V/m)	Limit
46.86	0.000220293	60.77

COLLOCATED POWER DENSITY CACULATIONS

So for NFC+2.4G simultaneous transmission 0.000220293/60.77+0.00060807/1=0.000611695<1

End of Test Report