

FCC RF EXPOSURE REPORT

FCC ID: M82-ARK1123

Project No. : 1604060
Equipment : Computer
Test Model : ARK-1123H
Series Model : ARK-1123H-U0A1E,
ARK-1123XXXXXXXXXXXXXXXXXXXX (where
“X” may be any alphanumeric character, “-”
or blank)
Applicant : Advantech Co., Ltd.
Address : No.1, Alley 20, Lane 26, Rueiguang Road,
Neihu District, Taipei 11491, Taiwan, R.O.C.
According: : FCC Guidelines for Human Exposure IEEE
C95.1

BTL Inc.

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MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

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

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)	Note
1	Invax	R-AN2450-5701 RS	Dipole	SMA Male Reverse	1.47	2.4G
1	Invax	R-AN2450-5701 RS	Dipole	SMA Male Reverse	5.21	5G
2	Invax	R-AN2450-5701 RS	Dipole	SMA Male Reverse	1.47	2.4G
2	Invax	R-AN2450-5701 RS	Dipole	SMA Male Reverse	5.21	5G

Note:

- (1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (2T2R).

TEST RESULTS

BT

EUT :	Computer	Model Name :	ARK-1123H
Temperature :	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX MODE_3Mbps/ CH01, CH06, CH11		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.47	1.4028	7.26	5.3211	0.00149	1	Complies
1.47	1.4028	8.27	6.7143	0.00187	1	Complies
1.47	1.4028	8.97	7.8886	0.00220	1	Complies

LE

EUT :	Computer	Model Name :	ARK-1123H
Temperature :	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX MODE_1Mbps/ CH00, CH19, CH39		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.47	1.4028	2.50	1.7783	0.00050	1	Complies
1.47	1.4028	2.45	1.7579	0.00049	1	Complies
1.47	1.4028	2.47	1.7660	0.00049	1	Complies

2.4G

EUT :	Computer	Model Name :	ARK-1123H
Temperature :	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX G MODE /CH01, CH06, CH11_Total		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.47	1.4028	24.29	268.5344	0.07498	1	Complies
1.47	1.4028	27.14	517.6068	0.14453	1	Complies
1.47	1.4028	23.68	233.3458	0.06516	1	Complies

5G

EUT :	Computer	Model Name :	ARK-1123H
Temperature :	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2A A MODE /CH52, CH60, CH64_Total		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
5.21	3.3189	13.97	24.9459	0.01648	1	Complies
5.21	3.3189	13.42	21.9786	0.01452	1	Complies
5.21	3.3189	13.25	21.1349	0.01396	1	Complies

Note: the calculated distance is 20 cm.