

Maximum Permissible Exposure Report

FCC ID: M82-EKI1360CE

Report No. : BTL-FCCP-4-2112T115
Equipment : Ethernet Device
Model Name : EKI-1362-CE, EKI-1361-CE, EKI-6233BN, EKI-136X-CE,
 EKI-136X-MB-CE, EKI136XXXXXX, EKI-136X-CXXXXXXX,
 EKI-6233XXXXXXX (where "X" may be any alphanumeric character ,
 blank or "-".)
Brand Name : ADVANTECH
Applicant : Advantech Co., Ltd.
Address : No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 11491,
 Taiwan, R.O.C.
Standard(s) : FCC CFR Title 47, Part 2 (2.1091)
 FCC Guidelines for Human Exposure IEEE C95.1
Date of Receipt : 2021/12/24
Date of Test : 2021/12/24 ~ 2022/3/29
Issued Date : 2022/6/17

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

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**BTL Inc.**

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2112T115	R00	Original Report.	2022/4/15	Invalid
BTL-FCCP-4-2112T115	R01	Added series model.	2022/4/26	Invalid
BTL-FCCP-4-2112T115	R02	Revised report to address TCB's comments and added two appearances.	2022/6/17	Valid

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:

Antenna	Manufacture	Product Number	Type	Connector	Frequency (MHz)	Gain (dBi)
1		AN2450-92K01BRS	Dipole	SMA Male Reverse	2400-2500	5.03
					5150-5850	5.01
2		AN2450-92K01BRS	Dipole	SMA Male Reverse	2400-2500	5.03
					5150-5850	5.01

Maximum RF OUTPUT POWER:

	Mode	Maximum Output Power (dBm)
WLAN 2.4 GHz	IEEE 802.11b	16.22
	IEEE 802.11g	21.76
	IEEE 802.11n (HT20)	22.54
	IEEE 802.11n (HT40)	22.30
RLAN 5 GHz	IEEE 802.11a	16.82
	IEEE 802.11n (HT20)	17.12
	IEEE 802.11n (HT40)	17.11
	IEEE 802.11ac (VHT20)	16.97
	IEEE 802.11ac (VHT40)	16.94
	IEEE 802.11ac (VHT80)	15.28

TEST RESULTS**2.4G WLAN:**

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm2)	Limit of Power Density (S) (mW/cm2)	Test Result
5.03	3.1842	22.54	179.4734	0.11374973	1	Complies

5G RLAN:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm2)	Limit of Power Density (S) (mW/cm2)	Test Result
5.01	3.1696	17.12	51.5229	0.03250501	1	Complies

Note:

1. The calculated distance is 20 cm.

COLLOCATED POWER DENSITY CALCULATIONS

So for simultaneous transmission WIFI+RLAN: $0.11374973/1+0.03250501/1=0.14625474<1$.

End of Test Report