

Maximum Permissible Exposure Report

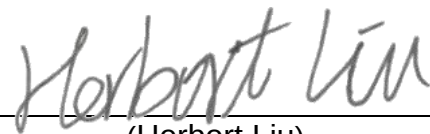
FCC ID: Q3N-82312

Project No. : 1808T030
Equipment : Terminal
Test Model : 8231
Series Model : N/A
Applicant : CIPHERLAB CO., LTD.
Address : 12F, 333, Dunhua S. Rd., Sec. 2, Taipei, Taiwan

According: : FCC Guidelines for Human Exposure IEEE
C95.1

Authorized Signatory

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B T L I N C .

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Testing Laboratory

0659

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

Bluetooth EDR and LE:

Ant.	Brand	Test Model	Antenna Type	Connector	Gain (dBi)
1	CipherLab	8231 BT Antenna	PIFA	U.FL	1.71

2.4G WLAN:

Ant.	Brand	Test Model	Antenna Type	Connector	Gain (dBi)
1	CipherLab	8231 WIFI Antenna	PIFA	U.FL	2.41

TEST RESULTS

Bluetooth EDR:

Test Mode :	TX Mode _1Mbps
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Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2402	1.71	1.4825	3.22	2.0989	0.00061937	1	Complies
2441	1.71	1.4825	4.97	3.1405	0.00092672	1	Complies
2480	1.71	1.4825	5.89	3.8815	0.00114538	1	Complies

Test Mode :	TX Mode _3Mbps
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Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2402	1.71	1.4825	-0.80	0.8318	0.00024544	1	Complies
2441	1.71	1.4825	0.94	1.2417	0.00036640	1	Complies
2480	1.71	1.4825	1.96	1.5704	0.00046339	1	Complies

Bluetooth LE:

Test Mode :	CH00, CH19 , CH39
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Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2402	1.71	1.4825	3.37	2.1727	0.00064114	1	Complies
2440	1.71	1.4825	4.95	3.1261	0.00092247	1	Complies
2480	1.71	1.4825	5.84	3.8371	0.00113227	1	Complies

2.4G:

Test Mode :	TX B Mode / CH01, CH06, CH11
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Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2412	2.41	1.7418	14.69	29.4442	0.01020823	1	Complies
2437	2.41	1.7418	14.70	29.5121	0.01023176	1	Complies
2462	2.41	1.7418	13.97	24.9459	0.00864869	1	Complies

Test Mode :	TX G Mode / CH01, CH06, CH11
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Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2412	2.41	1.7418	14.34	27.1644	0.00941782	1	Complies
2437	2.41	1.7418	18.15	65.3131	0.02264386	1	Complies
2462	2.41	1.7418	17.92	61.9441	0.02147585	1	Complies

Test Mode :	TX N-20M Mode / CH01, CH06, CH11
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Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2412	2.41	1.7418	14.25	26.6073	0.00922466	1	Complies
2437	2.41	1.7418	18.13	65.0130	0.02253982	1	Complies
2462	2.41	1.7418	17.79	60.1174	0.02084253	1	Complies

Note:

(1) The calculated distance is 20 cm.