

FCC RF EXPOSURE REPORT

FCC ID: Q3N-9700A

Project No. : 1611066
Equipment : Mobile Computer
Test Model : 9700A
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

B T L I N C .

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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
Bluetooth EDR and LE:

Ant.	Brand	Test Model	Antenna Type	Connector	Gain (dBi)	Note
1	CIPHERLAB	KZWB2ML97007 2	PIFA Antenna	N/A	1.52	N/A

WLAN 2.4GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	CIPHERLAB	KZWB2ML97007 2	PIFA Antenna	N/A	1.52	NA

RLAN 5GHz:

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	CIPHERLAB	KX00000060122	PIFA Antenna	N/A	2.08	Band 1
					2.28	Band 2
					3.13	Band 3
					1.91	Band 4

TEST RESULTS

Bluetooth EDR:

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	TX Mode _1Mbps		

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
1.52	1.4191	10.16	10.3753	0.00293056	1	Complies
1.52	1.4191	10.11	10.2565	0.00289701	1	Complies
1.52	1.4191	9.07	8.0724	0.00228008	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	TX Mode _3Mbps		

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
1.52	1.4191	9.93	9.8401	0.00277940	1	Complies
1.52	1.4191	9.99	9.9770	0.00281806	1	Complies
1.52	1.4191	8.93	7.8163	0.00220775	1	Complies

Bluetooth LE:

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	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
1.52	1.4191	-4.31	0.3707	0.00010470	1	Complies
1.52	1.4191	-4.87	0.3258	0.00009203	1	Complies
1.52	1.4191	-7.24	0.1888	0.00005333	1	Complies

WLAN 2.4GHz:

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	TX B Mode / _ Total 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
1.52	1.4191	19.40	87.0964	0.02460086	1	Complies
1.52	1.4191	19.14	82.0352	0.02317130	1	Complies
1.52	1.4191	19.62	91.6220	0.02587917	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	TX G Mode / _ Total 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
1.52	1.4191	23.03	200.9093	0.05674798	1	Complies
1.52	1.4191	22.14	163.6817	0.04623282	1	Complies
1.52	1.4191	21.68	147.2313	0.04158631	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	TX N-20M Mode_ Total /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
1.52	1.4191	23.01	199.9862	0.05648724	1	Complies
1.52	1.4191	22.31	170.2159	0.04807844	1	Complies
1.52	1.4191	22.16	164.4372	0.04644622	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	TX N-40M Mode_ Total /CH03, CH06, CH09		

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
1.52	1.4191	21.43	138.9953	0.03926001	1	Complies
1.52	1.4191	21.03	126.7652	0.03580555	1	Complies
1.52	1.4191	20.31	107.3989	0.03033544	1	Complies

RLAN 5GHz

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-1/TX A Mode _ Total /CH36, CH40, CH48		

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
2.08	1.6144	15.41	34.7536	0.01116736	1	Complies
2.08	1.6144	15.91	38.9942	0.01252998	1	Complies
2.08	1.6144	15.86	38.5478	0.01238655	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-1/TX N20 Mode _ Total /CH36, CH40, CH48		

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
2.08	1.6144	15.48	35.3183	0.01134881	1	Complies
2.08	1.6144	15.86	38.5478	0.01238655	1	Complies
2.08	1.6144	15.84	38.3707	0.01232964	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-1/TX N40 Mode _ Total /CH38, CH46		

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
2.08	1.6144	15.43	34.9140	0.01121890	1	Complies
2.08	1.6144	15.53	35.7273	0.01148022	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-2A/TX A Mode _Total /CH52, CH60, CH64		

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
2.28	1.6904	16.20	41.6869	0.01402653	1	Complies
2.28	1.6904	16.42	43.8531	0.01475538	1	Complies
2.28	1.6904	16.23	41.9759	0.01412376	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-2A/TX N20 Mode _Total /CH52, CH60, CH64		

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
2.28	1.6904	15.96	39.4457	0.01327243	1	Complies
2.28	1.6904	16.29	42.5598	0.01432024	1	Complies
2.28	1.6904	16.03	40.0867	0.01348809	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-2A/TX N40 Mode _Total /CH54, CH62		

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
2.28	1.6904	15.76	37.6704	0.01267507	1	Complies
2.28	1.6904	15.91	38.9942	0.01312050	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-2C/TX A Mode _Total /CH100, CH116, CH140		

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
3.13	2.0559	15.75	37.5837	0.01537979	1	Complies
3.13	2.0559	15.88	38.7258	0.01584712	1	Complies
3.13	2.0559	14.92	31.0456	0.01270429	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-2C/TX N20 Mode _Total /CH100, CH116, CH140		

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
3.13	2.0559	15.64	36.6438	0.01499513	1	Complies
3.13	2.0559	15.76	37.6704	0.01541524	1	Complies
3.13	2.0559	14.86	30.6196	0.01252998	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-2C/TX N40 Mode _Total /CH102, CH110, CH134		

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
3.13	2.0559	15.46	35.1560	0.01438634	1	Complies
3.13	2.0559	15.40	34.6737	0.01418895	1	Complies
3.13	2.0559	14.59	28.7740	0.01177471	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-3/TX A Mode _Total /CH149, CH157, CH161		

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
1.91	1.5524	15.46	35.1560	0.01086301	1	Complies
1.91	1.5524	14.98	31.4775	0.00972636	1	Complies
1.91	1.5524	14.66	29.2415	0.00903546	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-3/TX N20 Mode _Total /CH149, CH157, CH161		

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
1.91	1.5524	15.12	32.5087	0.01004501	1	Complies
1.91	1.5524	14.80	30.1995	0.00933148	1	Complies
1.91	1.5524	14.53	28.3792	0.00876901	1	Complies

EUT:	Mobile Computer	Model Name :	9700A
Test Mode :	UNII-3/TX N40 Mode _Total /CH151, CH159		

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
1.91	1.5524	14.99	31.5500	0.00974878	1	Complies
1.91	1.5524	14.72	29.6483	0.00916116	1	Complies

Note:

- (1) The calculated distance is 20 cm.
- (2) Bluetooth EDR, LE, WLAN 2.4GHz and RLAN 5GHz can not transmit at same time.