RF Exposure Evaluation

No.: 10017FCE

Applicant	Casio Computer Co., Ltd.
Address	2-1, Sakae-cho 3-chome, Hamura-shi, Tokyo 205-8555, Japan
EUT	Wireless LAN UNIT
Model No.	WYCAAVDX2
FCC ID	BBQAF10

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Radiofrequency Radiation Exposure Evaluation

15.247(i): Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

1.1307(b)(1): The appropriate exposure limits in § 1.1310 and 2.1093 of this chapter are generally applicable to all facilities, operations and transmitters regulated by the Commission.

1.1310: The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b).

TABLE 1—LIMITS FOR 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)
30–300	27.5	0.073	0.2	30
300–1500	.....	.....	f/1500	30
1500–100,000	.....	.....	1.0	30

Limit = 1.0 [mW/cm^2] at 2.5GHz

MPE Calculation:

A *	B	C **	D	Limit [mW/cm^2]
Specified Antenna Gain *	Max. RF Output Power at Antenna Terminal [mW]	Distance [cm] **	Power Density. [mW/cm^2]	1.0
1.55	217.77	20	0.067	

*: Numeric value of antenna gain (1.90dBi).

**: The shortest distance between transmitter's radiating structure and the body of the user or nearby person. This device should be used in separation distance of at least 20 centimeters maintained between transmitter's radiating structure and the body of the user or nearby persons. Refer to WYCAAVDX2 user manual.

Calculation: $D = (A * B) / (4 * \pi * C\text{^}2)$ (1)

For a truly worst-case prediction of power density at or near a surface, such as at groundlevel or on a rooftop, 100% reflection of incoming radiation can be assumed, resulting in a potential doubling of predicted field strength and a four-fold increase in power density. In that case Equations (1) can be modified to:

$D = (2\text{^}2)*(A * B) / (4 * \pi * C\text{^}2)$ (worst-case)

Power Density = 0.269mW/cm^2

MPE Limit = 1.0mW/cm^2 > Power Density in worst-case

This means that according to OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01), the equipment fulfills the requirements on power density for general population/uncontrolled exposure and therefore fulfills the requirements of 47 CFR Part 15.247(i).