

RF EXPOSURE EVALUATION

FCC ID : 2APDI-BCM-DC100-AS

Standard Requirement

The following FCC Rule Parts and procedures are applicable :

Part 1.1310 Radiofrequency radiation exposure limits

Part 2.1091 Radiofrequency radiation exposure evaluation : Mobile device

KDB447498 D01 v06 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies

Table 1 below sets forth limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields.

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)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

*f = frequency in MHz * = Plane-wave equivalent power density*

Frequency range : 2402 MHz - 2480 MHz

Limit : 1 mW/cm²



CTK Co., Ltd.
The Power Leader of Global Regulatory Compliance

CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea

Tel: +82-31-339-9970 Fax: +82-31-624-9501

www.e-ctk.com

MPE calculation

$$S = \text{EIRP} / (4\pi R^2)$$

Where

S : Power density

EIRP : $P \times G$

P : Maximum transmitter power

G : Antenna gain

R : distance to the centre of radiation of the antenna

EUT RF Exposure

[Bluetooth_BDR(GFSK)]

P : -1.16 dBm (0.77 mW)

G : 1.33

R : 20 cm

$$S = 0.00021 \text{ mW/cm}^2$$

[Bluetooth_EDR(8-DPSK)]

P : -2.31 dBm (0.59 mW)

G : 1.33

R : 20 cm

$$S = 0.00016 \text{ mW/cm}^2$$

[Bluetooth_LE(GFSK)]

P : 6.84 dBm (4.83 mW)

G : 1.33

R : 20 cm

$$S = 0.00131 \text{ mW/cm}^2$$

Conclusion

This confirms compliance to the required Radio frequency radiation exposure limit.