



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

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

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RF EXPOSURE EVALUATION

Product Description

Applicant		S-winnus Co., Ltd
Applicant Address		NO. 701, 702, Centum Sky Biz A, 97, Centum jungang-ro, Haeundae-gu, Busan, Korea
Kind of Product		iLock Plus
FCC ID		2AJOX-ILOCK-S200
Antenna type		PIFA
Antenna Gain		Band 850 MHz : -2.72 dBi Band 1 900 MHz : -4.07 dBi
Frequency Range		824 MHz - 849 MHz 1 850 MHz - 1 910 MHz
Output power(ERP, EIRP)	GSM	Band 850 : 0.650 W (28.13 dBm), Band 850(EGPRS) : 0.318 W (25.03 dBm) Band 1 900 : 0.383 W (25.83 dBm) Band 1 900(EGPRS) : 0.284 W (24.53 dBm)
	WCDMA	Band II : 0.171 W (22.32 dBm) Band V : 0.150 W (21.76 dBm)



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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			<u>f/1500</u>	30
1,500-100,000			<u>1.0</u>	30

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

Band 850 MHz : 0.55 mW/cm²

Band 1 900 MHz : 1 mW/cm²



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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

[Band 850 MHz]

P : 35 dBm (rated power : 33 dBm, tolerance: +2 dB)

G : -2.72 dBi

EIRP : 30.13 dBm (1030 mW)

R : 20 cm

$$S = 1030 / 4\pi / 20^2$$

$$S = 0.205 \text{ mW/cm}^2$$

[Band 1 900 MHz]

P : 32 dBm (rated power : 30 dBm, tolerance: +2 dB)

G : -4.07 dBi

EIRP : 27.93 dBm (621 mW)

R : 20 cm

$$S = 621 / 4\pi / 20^2$$

$$S = 0.124 \text{ mW/cm}^2$$

Conclusion

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