

RF Exposure Report

Report No.: SA150116D04

FCC ID: P27DLC200SUS

Test Model: DLC-200SUS

Series Model: DLC-200Sxxx (where "x" is blank, number or any characters)

Received Date: Jan. 16, 2015

Test Date: Jan. 26 ~ Jul. 17, 2015

Issued Date: Jul. 23, 2015

Applicant: Sercomm Corp.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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Release Control Record

Issue No.	Description	Date Issued
SA150116D04	Original release.	Jul. 23, 2015



1 Certificate of Conformity

Product: Digital Life Controller
Brand: Sercomm
Test Model: DLC-200SUS
Series Model: DLC-200Sxxx (where "x" is blank, number or any characters)
Sample Status: Engineering sample
Applicant: Sercomm Corp.
Test Date: Jan. 26 ~ Jul. 17, 2015
Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D03
IEEE C95.1

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

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Approved by : Rex Lai , **Date:** Jul. 23, 2015
Rex Lai / Assistant Manager

2 RF Exposure

2.1 Limits For Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	F/1500	30
1500-100,000	1.0	30

F = Frequency in MHz

2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * pi * r^2)$$

where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 25cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Calculation Result Of Maximum Conducted Power

Function	Frequency Band (MHz)	Max Power (dBm)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WLAN	2412-2462	29.80	954.793	6.96	25	0.6038	1
Zigbee	2405-2475	15.98	39.628	3.27	25	0.0107	1
LPRF	903.248-927.715	10.76	11.912	1.22	25	0.0020	0.602
DECT	1920-1930	15.98	39.628	0	25	0.0050	1

NOTE: WLAN: Directional gain = 3.95dBi + 10log(2) = 6.96dBi

Frequency Band (MHz)	ERP (dBm)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
EGPRS: 824.2MHz ~ 848.8MHz	29.15	31.30	25	0.1718	0.550
WCDMA: 826.4MHz ~ 846.6MHz	23.57	25.72	25	0.0475	0.551

Note: EIRP = ERP + 2.15

Frequency Band (MHz)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
EGPRS: 1850.2MHz ~ 1909.8MHz	30.64	25	0.1475	1
WCDMA: 1852.4MHz ~ 1907.6MHz	23.87	25	0.0310	1

Conclusion:

The formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$\text{WLAN} + \text{Zigbee} + \text{LPRF} + \text{EGPRS: 824.2MHz} \sim \text{848.8MHz} + \text{DECT} \\ = 0.6038/1 + 0.0107/1 + 0.0020/0.602 + 0.1718/0.550 + 0.0050/1 = 0.9352$$

$$\text{WLAN} + \text{Zigbee} + \text{LPRF} + \text{EGPRS: 1850.2MHz} \sim \text{1909.8MHz} + \text{DECT} \\ = 0.6038/1 + 0.0107/1 + 0.0020/0.602 + 0.1475/1 + 0.0050/1 = 0.7703$$

Therefore the maximum calculations of above situations are less than the "1" limit.

Frequency Band	Max Power (dBm)		Total Power (dBm)	Power Limit (dBm)
	WLAN	Zigbee		
2.4GHz	29.80	15.98	29.98	30

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