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**IEEE C95.1 2005
KDB 447498 D01 V06
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091
RF EXPOSURE REPORT**

For

Zigbee Keypad

Model:

SZ-KPD04, SZ-KPD04Nxxxxxxxx (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-" , for marking purpose)

Trade Name: Sercomm; Stanley Security; Scout Alarm

Issued to

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Issued by

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<http://www.ccsrf.com>
Issued Date: September 25, 2018**

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	September 25, 2018	Initial Issue	ALL	May Lin



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1. TEST RESULT CERTIFICATION

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified in this report.

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by:

Reporter:

Sam Chuang
Manager
Compliance Certification Services Inc.

May Lin
Report coordinator
Compliance Certification Services Inc.



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2. LIMIT

According to §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.

3. EUT SPECIFICATION

EUT	Zigbee Keypad					
Model	SZ-KPD04, SZ-KPD04Nxxxxxxxx (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-", for marking purpose)					
Trade Name	Sercomm; Stanley Security; Scout Alarm					
Model Discrepancy	The suffix of "x" (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-", for marking purpose)					
Frequency band (Operating)	☒ Zigbee: 2405~2480MHz ☐ Others					
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others					
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm ²) ☒ General Population/Uncontrolled exposure (S=1mW/cm ²)					
Antenna Specification	Zigbee: Antenna Gain : 1.00 dBi (Numeric gain 1.26)					
Max tune up Power	<table border="1"><tr><td>Zigbee:</td><td>9.00 dBm</td><td>(7.943 mW)</td></tr></table>			Zigbee:	9.00 dBm	(7.943 mW)
Zigbee:	9.00 dBm	(7.943 mW)				
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A					

4. TEST RESULTS

No non-compliance noted.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²



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5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

Zigbee:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
18	2440	7.943	1.26	20	0.0020	1

--End of Report--