IEEE C95.1
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

RF EXPOSURE REPORT

For

Smart Cooker

Model: CK8522

Trade Name: AIONE

Issued to

ST&T Electric Corp.
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Tainan City, TAIWAN

Issued By
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Issued Date: September 13, 2018

Report No.: T180717N01-MF

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	August 06, 2018	Initial Issue	ALL	Gina Lin
01	September 05, 2018	See the following note rev.01	ALL	Gina Lin
02	September 13, 2018	See the following note rev.01	ALL	Gina Lin

Note:

※ Rev.00 Issue Date: August 06, 2018
Original Report

※ Rev.01 Issue Date: September 05, 2018
Update Maximum Average output power & Maximum Permissible Exposure.

※ Rev.02 Issue Date: September 13, 2018
Update Maximum Average output power & Maximum Permissible Exposure.

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1. TEST RESULT CERTIFICATION

We hereby certify that:

The equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirement of the applicable standards. The test record, data evaluation and Equipment under Test (EUT) configurations represented herein are true and accurate accounts of the measurement of the sample's RF characteristics under the conditions specified 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:

Jeter Wu
Assistant Manager

Reviewed by:

Eric Huang
Section Manager

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	Smart Cooker
Model	CK8522
Trade Name	AIONE
Model Discrepancy	N/A
Frequency band (Operating)	☒ 802.11b/g/n HT20: 2412MHz ~ 2462MHz 802.11n HT40: 2422MHz ~ 2452MHz ☐ Others
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm2) ☒ General Population/Uncontrolled exposure (S=1mW/cm2)
Antenna Specification	Antenna (1TX1RX) Manufacturer: Master Wave Technology Co., Ltd. Type: PCB Mode: 98P8ZMIPF001 Gain：3.96dBi 2.4GHz Antenna Gain: 3.96 dBi (Numeric gain: 2.49) worst
Maximum Average output power	IEEE 802.11b Mode : 9.91 dBm (9.795 mW) IEEE 802.11g Mode : 7.41 dBm (5.508 mW) IEEE 802.11n HT20 Mode : 6.92 dBm (4.920 mW) IEEE 802.11n HT40 Mode : 5.71 dBm (3.724 mW)
Maximum Tune up Power	IEEE 802.11b Mode : 10.91 dBm (12.331 mW) IEEE 802.11g Mode : 8.41 dBm (6.934 mW) IEEE 802.11n HT20 Mode : 7.92 dBm (6.194 mW) IEEE 802.11n HT40 Mode : 6.71 dBm (4.688 mW)
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A
Frequency band (Operating)	☒ 802.11b/g/n HT20: 2412MHz ~ 2462MHz 802.11n HT40: 2422MHz ~ 2452MHz ☐ Others

Notes: For 2.4GHz and 5GHz could not be use as transmit/receive at the same time.

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 (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

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

Where d = Distance in cm
P = Power in mW
G = Numeric antenna gain
S = Power density in mW / cm²

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

IEEE 802.11b Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)	Result
High	2462	12.331	2.49	20	0.0061	1	Pass

IEEE 802.11g Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)	Result
Low	2412	6.934	2.49	20	0.0034	1	Pass

IEEE 802.11n HT 20 Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)	Result
Low	2412	6.194	2.49	20	0.0031	1	Pass

IEEE 802.11n HT 40 Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)	Result
Low	2422	4.688	2.49	20	0.0023	1	Pass