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

Versa PIR

Model: PIR

Trade Name: versa

Issued to

Versa Wireless Inc.
103-19292 60th Ave. Surrey, BC Canada V3S 3M2

Issued By
Compliance Certification Services Inc.
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)
Issued Date: May 29, 2019

Note: *This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document. The client should not use it to claim product endorsement by TAF, A2LA, NIST or any government agencies. The test results in the report only apply to the tested sample.*

REVISION HISTORY

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	April 25, 2019	Initial Issue	ALL	Angel Cheng
01	May 29, 2019	See the following note rev.01	ALL	Angel Cheng

Note:

※ Rev.01 Issue Date: May 29, 2019
Update Limit & Average output power.

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Report No.: T190403N01-MF

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:

Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

Reporter:

Angel Cheng
Report coordinator
Compliance Certification Services Inc.

2. LIMIT

According to §1.1310 (e) (B) Limits for General Population/Uncontrolled Exposure, the frequency range (MHz) for 300-1,500 of Power density(mW/cm2) should be **f/1500 .**

3. EUT SPECIFICATION

EUT	Versa PIR
Model	PIR
Trade Name	versa
Model Discrepancy	N/A
Frequency band (Operating)	☐ 802.11b/g/n HT20: 2412MHz ~ 2462MHz 802.11n HT40: 2422MHz ~ 2452MHz ☒ Others (345MHz)
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm2) ☒ General Population/Uncontrolled exposure (S=0.23mW/cm2)
Antenna Specification	Antenna Gain : -7.30 dBi (Numeric gain: 0.19)
Maximum Average output power	345MHz -20.80 dBm (0.008 mW)
Maximum Tune up Power	345MHz -20.50 dBm (0.009 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 (345MHz)

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
1	345	0.009	0.19	20	0.0000003	0.23	Pass