



FCC ID: W3TM8811CU5
Report No.: T200316C02-MF

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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

WiFi BL-M8811CU5

Model: WiFi BL-M8811CU5

Trade Name: Safe Fleet

Issued to

Fleetmind Seon Solutions Inc
Unit 111 – 3B Burbridge Street, Coquitlam, BC, V3K 7B2 Canada

Issued by

Compliance Certification Services Inc.
Wugu Laboratory
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City, Taiwan. (R.O.C.)
Issue Date: May 12, 2020

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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	May 12, 2020	Initial Issue	ALL	Doris Chu



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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
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
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

Approved by:

Kevin Tsai
Deputy Manager
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	WiFi BL-M8811CU5																	
Model	WiFi BL-M8811CU5																	
Model Discrepancy	N/A																	
Frequency band (Operating)	<div><input checked="" type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462 MHz</div> <div><input checked="" type="checkbox"/> 802.11n HT40: 2422MHz ~ 2452MHz</div> <div><input checked="" type="checkbox"/> 802.11a/n HT20: 5180MHz ~ 5240MHz / 5260 ~ 5320MHz 5500 ~ 5700MHz / 5745MHz ~ 5825MHz</div> <div>802.11n HT40: 5190MHz ~ 5230MHz / 5270 ~ 5310MHz 5510 ~ 5670MHz / 5755MHz ~ 5795MHz</div> <div>802.11ac VHT80: 5210MHz / 5290MHz / 5530MHz / 5775MHz</div> <div><input type="checkbox"/> Others</div>																	
Device category	<div><input type="checkbox"/> Portable (<20cm separation)</div> <div><input checked="" type="checkbox"/> Mobile (>20cm separation)</div> <div><input type="checkbox"/> Others</div>																	
Exposure classification	<div><input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm²)</div> <div><input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm²)</div>																	
Antenna Specification	<div>Dual Band Omni Antenna</div> <table><tr><td>2.4GHz:</td><td>Directional Gain :</td><td>4.00 dBi</td><td>(Numeric gain:</td><td>2.51)</td><td>Worst</td></tr><tr><td>5GHz:</td><td>Directional Gain :</td><td>4.00 dBi</td><td>(Numeric gain:</td><td>2.51)</td><td>Worst</td></tr></table>						2.4GHz:	Directional Gain :	4.00 dBi	(Numeric gain:	2.51)	Worst	5GHz:	Directional Gain :	4.00 dBi	(Numeric gain:	2.51)	Worst
2.4GHz:	Directional Gain :	4.00 dBi	(Numeric gain:	2.51)	Worst													
5GHz:	Directional Gain :	4.00 dBi	(Numeric gain:	2.51)	Worst													

Maximum Measurement Average Power	2.4GHz		
	IEEE 802.11b Mode:	21.24 dBm	(133.045 mW)
	IEEE 802.11g Mode:	16.64 dBm	(46.132 mW)
	IEEE 802.11n HT 20 Mode:	16.59 dBm	(45.604 mW)
	IEEE 802.11n HT 40 Mode:	16.73 dBm	(47.098 mW)
	5GHz		
	IEEE 802.11a Mode:	17.41 dBm	(55.081 mW)
	IEEE 802.11n HT 20 Mode:	17.70 dBm	(58.884 mW)
	IEEE 802.11n HT 40 Mode:	18.01 dBm	(63.241 mW)
	IEEE 802.11ac VHT 80 Mode:	17.53 dBm	(56.624 mW)
Maximum tune up power	2.4GHz		
	IEEE 802.11b Mode:	21.50 dBm	(141.254 mW)
	IEEE 802.11g Mode:	17.00 dBm	(50.119 mW)
	IEEE 802.11n HT 20 Mode:	17.00 dBm	(50.119 mW)
	IEEE 802.11n HT 40 Mode:	17.00 dBm	(50.119 mW)
	5GHz		
	IEEE 802.11a Mode:	18.00 dBm	(63.096 mW)
	IEEE 802.11n HT 20 Mode:	18.50 dBm	(70.795 mW)
	IEEE 802.11n HT 40 Mode:	19.00 dBm	(79.433 mW)
	IEEE 802.11ac VHT 80 Mode:	18.50 dBm	(70.795 mW)
Evaluation applied	<div><input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A</div>		

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

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

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 / cm ²	Limit (mW/cm2)
1	2412	141.254	2.51	20	0.0706	1

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
1	2412	50.119	2.51	20	0.0250	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	50.119	2.51	20	0.0250	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
3	2422	50.119	2.51	20	0.0250	1

IEEE 802.11a mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
140	5700	63.096	2.51	20	0.0315	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
52	5260	70.795	2.51	20	0.0354	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
54	5270	79.433	2.51	20	0.0397	1

IEEE 802.11ac VHT80 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
58	5290	70.795	2.51	20	0.0354	1

--End of Report--