

Radio Exposure Evaluation Report

FCC ID : 2AX39-0029907540

Equipment : Infiot Extensible Edge

Brand Name : Infiot

Model Name : iXEdge-101

Applicant : Infiot Inc
75 E Santa Clara St. Suite 600, San Jose, CA 95113, USA

Manufacturer : Infiot Inc
75 E Santa Clara St. Suite 600, San Jose, CA 95113, USA

Standard : 47 CFR Part 2.1091

The product was received on Aug. 27, 2020, and testing was started from Sep. 14, 2020 and completed on Sep. 14, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FA082630	01	Initial issue of report	Dec. 04, 2020
FA082630	02	Mode of 2.3 section was updated This report is the latest version replacing for the report issued on Dec. 04, 2020	Dec. 29, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

None.

Reviewed by: Sam Tsai

Report Producer: Jenny Yang



1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
5GHz WLAN	5150-5250 5725-5850	5180-5240 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Bluetooth	2400-2483.5	2402-2480	LE: DSSS (GFSK)

RF General Information				
Evaluation Mode	Bandwidth (MHz)	TX Frequency (MHz)	RX Frequency (MHz)	Modulation Type
LTE Band 2	1.4	1850.7 - 1909.3	1930.7 - 1989.3	QPSK / 16QAM
	3	1851.5 - 1908.5	1931.5 - 1988.5	
	5	1852.5 - 1907.5	1932.5 - 1987.5	
	10	1855.0 - 1905.0	1935.0 - 1985.0	
	15	1857.5 - 1902.5	1937.5 - 1982.5	
	20	1860.0 - 1900.0	1940.0 - 1980.0	
LTE Band 4	1.4	1710.7 - 1754.3	2110.7 - 2154.3	
	3	1711.5 - 1753.5	2111.5 - 2153.5	
	5	1712.5 - 1752.5	2112.5 - 2152.5	
	10	1715.0 - 1750.0	2115.0 - 2150.0	
	15	1717.5 - 1747.5	2117.5 - 2147.5	
	20	1720.0 - 1745.0	2120.0 - 2145.0	
LTE Band 5	1.4	824.7 - 848.3	869.7 - 893.3	
	3	825.5 - 847.5	870.5 - 892.5	
	5	826.5 - 846.5	871.5 - 891.5	
	10	829.0 - 844.0	874.0 - 889.0	
LTE Band 7	5	2502.5 - 2567.5	2622.5 - 2687.5	
	10	2505 - 2565	2625 - 2685	
	15	2507.5 - 2562.5	2627.5 - 2682.5	
	20	2510 - 2560	2630 - 2680	



RF General Information				
Evaluation Mode	Bandwidth (MHz)	TX Frequency (MHz)	RX Frequency (MHz)	Modulation Type
LTE Band 12	1.4	699.7 - 715.3	729.7 - 745.3	QPSK / 16QAM
	3	700.5 - 714.5	730.5 - 744.5	
	5	701.5 - 713.5	731.5 - 743.5	
	10	704.0 - 711.0	734.0 - 741.0	
LTE Band 13	5	779.5 - 784.5	748.5 - 753.5	
	10	782.0	751.0	
LTE Band 25	1.4	1850.7 - 1914.3	1930.7 - 1994.3	
	3	1851.5 - 1913.5	1931.5 - 1993.5	
	5	1852.5 - 1912.5	1932.5 - 1992.5	
	10	1855 - 1910	1935 - 1990	
	15	1857.5 - 1907.5	1937.5 - 1987.5	
	20	1860 - 1905	1940 - 1985	
LTE Band 26	1.4	814.7 - 848.3	859.7 - 893.3	
	3	815.5 - 847.5	860.5 - 892.5	
	5	816.5 - 846.5	861.5 - 891.5	
	10	819 - 844	864 - 889	
	15	821.5 - 841.5	866.5 - 886.5	
LTE Band 38	5	2572.5 - 2617.5		
	10	2575.0 - 2615.0		
	15	2577.5 - 2612.5		
	20	2580.0 - 2610.0		
LTE Band 41	5	2498.5 – 2687.5		
	10	2501 – 2685		
	15	2503.5 – 2682.5		
	20	2506 - 2680		

1.2 Testing Location

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			
☐	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
		TEL : 886-3-656-9065	FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.			

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	F/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	F/1500	30
1500-100,000	-	-	1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Method

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

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

2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

2.4GHz WLAN+Bluetooth+LTE

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	3.19	26.49	29.68	0.50	30.18	1.04232	20	0.20736	1.00000	0.20736
2.4G;BT-LE	2.53	4.88	7.41	0.50	7.91	0.00618	20	0.00123	1.00000	0.00123
Band 13;LTE	4.45	25.00	29.45	0.50	29.95	0.98855	20	0.19667	0.53300	0.36898
									Sum Ratio	0.57757
									Ratio Limit	1

5GHz WLAN+Bluetooth+LTE

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;BT-LE	2.53	4.88	7.41	0.50	7.91	0.00618	20	0.00123	1.00000	0.00123
5.8G-I;D1D	5.85	26.20	32.05	0.50	32.55	1.79887	20	0.35787	1.00000	0.35787
Band 13;LTE	4.45	25.00	29.45	0.50	29.95	0.98855	20	0.19667	0.53300	0.36898
									Sum Ratio	0.72808
									Ratio Limit	1

————THE END————