



FCC RADIO EXPOSURE TEST REPORT

FCC ID : TOR-C130

Equipment : 802.11a/b/g/n/ac AP

Brand Name : MOJO , ARISTA

Model Name : C-130E

Applicant : Mojo Networks, Inc.
5453 Great America Parkway Santa Clara, CA
95054 United States

Manufacturer : Mojo Networks, Inc.
5453 Great America Parkway Santa Clara, CA
95054 United States

Standard : 47 CFR Part 2.1091

The product was received on Jun. 04, 2019, and testing was started from Jun. 04, 2019 and completed on Jul. 01, 2019. 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this variant 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: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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



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Photographs of EUT v01



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Report Template No.: CB Ver1.0



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:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Cliff Chang

Report Producer: Vicky Huang



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) VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5240 5260-5320 5500-5720 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)

1.2 Table for Multiple Listing

The brand names in the following table are all refer to the identical product.

Model Name	Brand Name	Description
C-130E	MOJO	The EUT has two brand names, all the brand are identical, the difference brand name served as marketing strategy.
	ARISTA	

1.3 Table for Radio Information

Radio	Function
Radio 1	2.4GHz
Radio 2	5GHz
Radio 3	2.4GHz / 5GHz (Scan Radio)



1.4 Table for Class II Change

This product is an extension of original one reported under Sporton project number: 641226-21

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Adding 5GHz band 2 and band 3 (5250~5350 MHz, 5470~5725 MHz) for this device. 2. Adding the 80+80 mode for Radio 2. 3. Adding the beam-forming function for Radio1/2.	Maximum Permissible Exposure.

Note:

Maximum Permissible Exposure of 2.4GHz(Non-Beamforming mode) and 5GHz band 1, 4(Non-Beamforming mode) are based on original test report.

1.5 Testing Location

Testing Location		
☐	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086B with Industry Canada.

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)*	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)*	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 23 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

Radio1 (2.4G)

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)
2.4G;G1D	2.82	27.27	30.09	0.50	30.59	1.14551	23	0.17232	1.00000
2.4G;D1D-BF	8.84	21.51	30.35	0.50	30.85	1.21619	23	0.18295	1.00000

Radio2 (5G)

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)
5.2G;D1D	1.54	27.64	29.18	0.50	29.68	0.92897	23	0.13974	1.00000
5.2G;D1D-BF	7.56	27.57	35.13	0.50	35.63	3.65595	23	0.54995	1.00000
5.3G;D1D	1.54	23.51	25.05	0.50	25.55	0.35892	23	0.05399	1.00000
5.3G;D1D-BF	7.56	22.29	29.85	0.14	29.99	0.99770	23	0.15008	1.00000
5.6G;D1D	1.54	23.95	25.49	0.50	25.99	0.39719	23	0.05975	1.00000
5.6G;D1D-BF	7.56	22.19	29.75	0.24	29.99	0.99770	23	0.15008	1.00000
5.8G;D1D	1.54	29.32	30.86	0.50	31.36	1.36773	23	0.20574	1.00000
5.8G;D1D-BF	7.56	28.41	35.97	0.02	35.99	3.97192	23	0.59748	1.00000

Radio3 (2.4G / 5G)

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)
2.4G;G1D	3.32	27.13	30.45	0.50	30.95	1.24451	23	0.18721	1.00000
5.2G;D1D	3.24	25.44	28.68	0.50	29.18	0.82794	23	0.12454	1.00000
5.3G;D1D	3.24	22.49	25.73	0.50	26.23	0.41976	23	0.06314	1.00000
5.6G;D1D	3.24	22.50	25.74	0.50	26.24	0.42073	23	0.06329	1.00000
5.8G;D1D	3.24	25.83	29.07	0.50	29.57	0.90573	23	0.13625	1.00000

Simultaneous Transmission Analysis Mode:

Test Mode 1: Radio1 (2.4G) + Radio2 (5G) + Radio3 (2.4G)

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;D1D-BF	8.84	21.51	30.35	0.50	30.85	1.21619	23	0.18295	1.00000	0.18295
5.8G;D1D-BF	7.56	28.41	35.97	0.02	35.99	3.97192	23	0.59748	1.00000	0.59748
2.4G;G1D	3.32	27.13	30.45	0.50	30.95	1.24451	23	0.18721	1.00000	0.18721
									Sum Ratio	0.96764
									Ratio Limit	1

**Test Mode 2: Radio1 (2.4G) + Radio2 (5G) + Radio3 (5G)**

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;D1D-BF	8.84	21.51	30.35	0.50	30.85	1.21619	23	0.18295	1.00000	0.18295
5.8G;D1D-BF	7.56	28.41	35.97	0.02	35.99	3.97192	23	0.59748	1.00000	0.59748
5.8G;D1D	3.24	25.83	29.07	0.50	29.57	0.90573	23	0.13625	1.00000	0.13625
									Sum Ratio	0.91668
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

————THE END————