Radio Exposure Evaluation Report

FCC ID	:	**TOR-C250**
Equipment	:	**802.11 a/n/ac/ax + b/g/n/ax Access Point**
Brand Name	:	**Arista**
Model Name	:	**C-260**
Applicant	:	**Arista Networks, Inc.** **5453 Great America Parkway, Santa Clara, CA 95054**
Manufacturer	:	**Arista Networks, Inc.** **5453 Great America Parkway, Santa Clara, CA 95054**
Standard	:	**47 CFR Part 2.1091**

The product was received on Jun. 14, 2019, and testing was started from Jun. 14, 2019 and completed on Aug. 13, 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 United States 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: 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
FA950730-05	01	Initial issue of report	Dec. 24, 2019
FA950730-05	02	Revise Typo (This report is the latest version replacing for the report issued on Dec. 24, 2019)	Dec. 27, 2019

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:
For 802.11n and 802.11ac, CDD mode and Beamforming mode are presented in power output test item. For other test items, CDD mode is the worst case for final tests after pretesting.

Reviewed by: Jackson Tsai

Report Producer: Ann Hou

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/ac/ax: OFDM (BPSK, QPSK, 16QAM, 64QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5240 5260-5320 5500-5700 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11ax: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Bluetooth	2400-2483.5	2402-2480	LE: DSSS (GFSK)

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.			

1.3 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FA950730-01

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

Modifications	Performance Checking
Model name: C-260 was added	N/A
Ethernet connection speed increases from 2.5Gbps to 5Gbps	N/A
LTE signal filter in WiFi 2.4GHz RX path changed	

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/ cm²)	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/ cm²)	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 23 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

E (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) = $\frac{E^2}{377}$

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

WLAN 2.4G _Radio 1

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm2)	S Limit (mW/cm2)
2.4G;G1D	4.00	20.71	24.71	0.50	25.21	0.33189	23	0.04993	1.00000
2.4G;D1D	4.00	26.91	30.91	0.50	31.41	1.38357	23	0.20813	1.00000

WLAN 2.4G _Radio 2

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	3.50	21.86	25.36	0.50	25.86	0.38548	23	0.05799	1.00000
2.4G;D1D	3.50	25.34	28.84	0.50	29.34	0.85901	23	0.12922	1.00000

WLAN 5G _Radio 0_4TX

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm2)	S Limit (mW/cm2)
5.2G;D1D	5.00	25.83	30.83	0.50	31.33	1.35831	23	0.20433	1.00000
5.3G;D1D	5.00	22.04	27.04	0.50	27.54	0.56754	23	0.08538	1.00000
5.6G;D1D	5.00	23.26	28.26	0.50	28.76	0.75162	23	0.11307	1.00000
5.8G;D1D	5.00	29.49	34.49	0.50	34.99	3.15500	23	0.47461	1.00000

WLAN 5G_Radio 0_8TX

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm2)	S Limit (mW/cm2)
5.2G;D1D	5.00	25.48	30.48	0.50	30.98	1.25314	23	0.18851	1.00000
5.3G;D1D	5.00	21.77	26.77	0.50	27.27	0.53333	23	0.08023	1.00000
5.6G;D1D	5.00	23.63	28.63	0.50	29.13	0.81846	23	0.12312	1.00000
5.8G;D1D	8.00	27.40	35.40	0.50	35.90	3.89045	23	0.58524	1.00000

WLAN 5GHz _Radio 2_2TX

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm2)	S Limit (mW/cm2)
5.2G;D1D	5.00	24.51	29.51	0.50	30.01	1.00231	23	0.15078	1.00000
5.3G;D1D	5.00	23.34	28.34	0.50	28.84	0.76560	23	0.11517	1.00000
5.6G;D1D	5.00	22.98	27.98	0.50	28.48	0.70469	23	0.10601	1.00000
5.8G;D1D	5.00	24.54	29.54	0.50	30.04	1.00925	23	0.15182	1.00000

WLAN BT LE _Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm2)	S Limit (mW/cm2)
2.4G;BT-LE	3.50	7.05	10.55	0.50	11.05	0.01274	23	0.00192	1.00000

Bluetooth+ WLAN 2.4GHz(Radio 1)+ WLAN 2.4G(Radio 2)+ WLAN 5G(Radio 0)

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm2)	S Limit (mW/cm2)	Ratio (S/Limit)
5.8G;D1D	14.03	21.37	35.40	0.50	35.90	3.89045	23	0.58524	1.00000	0.58524
2.4G;D1D	10.02	20.89	30.91	0.50	31.41	1.38357	23	0.20813	1.00000	0.20813
2.4G;D1D	3.50	25.34	28.84	0.50	29.34	0.85901	23	0.12922	1.00000	0.12922
2.4G;BT-LE	3.50	7.05	10.55	0.50	11.05	0.01274	23	0.00192	1.00000	0.00192
									Sum Ratio	0.92451
									Ratio Limit	1

Bluetooth+ WLAN 2.4GHz(Radio 1)+ WLAN 5G(Radio 2)+ WLAN 5G(Radio 0)

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm2)	S Limit (mW/cm2)	Ratio (S/Limit)
5.8G;D1D	14.03	21.37	35.40	0.50	35.90	3.89045	23	0.58524	1.00000	0.58524
2.4G;D1D	10.02	20.89	30.91	0.50	31.41	1.38357	23	0.20813	1.00000	0.20813
5.8G;D1D	5.00	24.54	29.54	0.50	30.04	1.00925	23	0.15182	1.00000	0.15182
2.4G;BT-LE	3.50	7.05	10.55	0.50	11.05	0.01274	23	0.00192	1.00000	0.00192
									Sum Ratio	0.94711
									Ratio Limit	1

———THE END———