



# 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.

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

## 1.2 Testing Location

| Testing Location                           |        |                                                                              |                      |
|--------------------------------------------|--------|------------------------------------------------------------------------------|----------------------|
| <input checked="" type="checkbox"/>        | 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. |        |                                                                              |                      |
| <input type="checkbox"/>                   | 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/ cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|------------------------------------------|------------------------------------------------------------------|
| 0.3-3.0               | 614                               | 1.63                              | (100)*                                   | 6                                                                |
| 3.0-30                | 1842 / f                          | 4.89 / f                          | (900 / f <sup>2</sup> )*                 | 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 <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|------------------------------------------|------------------------------------------------------------------|
| 0.3-1.34              | 614                               | 1.63                              | (100)*                                   | 30                                                               |
| 1.34-30               | 824/f                             | 2.19/f                            | (180/f <sup>2</sup> )*                   | 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

### 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/cm <sup>2</sup> ) | S Limit (mW/cm <sup>2</sup> ) |
|----------|----------|-------------|------------|----------------|--------------------|------------------|---------------|-------------------------|-------------------------------|
| 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 <sup>2</sup> ) | S Limit (mW/cm <sup>2</sup> ) |
|----------|----------|-------------|------------|----------------|--------------------|------------------|---------------|-------------------------|-------------------------------|
| 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/cm <sup>2</sup> ) | S Limit (mW/cm <sup>2</sup> ) |
|----------|----------|-------------|------------|----------------|--------------------|------------------|---------------|-------------------------|-------------------------------|
| 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/cm <sup>2</sup> ) | S Limit (mW/cm <sup>2</sup> ) |
|----------|----------|-------------|------------|----------------|--------------------|------------------|---------------|-------------------------|-------------------------------|
| 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————

