

Company: Aruba Networks

Assessment of: APEX0104  
To: FCC CFR 47 Part 15 Subpart C 15.247 (DTS)

Report No.: ARUB199-MPE

**MPE TEST REPORT**



# MPE TEST REPORT

FROM



Assessment of: Aruba Networks APEX0104  
to

To: FCC CFR 47 Part 15 Subpart C 15.247 (DTS)

Test Report Serial No.: ARUB199-MPE

This report supersedes: NONE

Applicant: Aruba Networks  
1344 Crossman Ave.  
Sunnyvale, 94089-1113  
USA

Product Function: Wireless Access Point

Issue Date: 11th September 2015

## **This Test Report is Issued Under the Authority of:**

**MiCOM Labs, Inc.**  
575 Boulder Court  
Pleasanton California 94566  
USA  
Phone: +1 (925) 462-0304  
Fax: +1 (925) 462-0306  
[www.micomlabs.com](http://www.micomlabs.com)



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## 1. MAXIMUM PERMISSABLE EXPOSURE

### Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d (\text{mW/cm}^2) = \text{EIRP} / (4 * \pi * d^2)$$

$$\text{EIRP} = P * G$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

Numeric Gain =  $10^{(G \text{ (dBi)}/10)}$

Because the EUT belongs to the General Population/Uncontrolled Exposure the limit of power density is  $1.0 \text{ mW/cm}^2$

The calculations in the table below use the highest conducted power values together with the lowest antenna gain specified for the EUT. These calculations represent worst case in terms of the exposure levels.

| Freq. Band (MHz) | Ant Gain (dBi) | Numeric Gain (numeric) | Peak Output Power (dBm) | Peak Output Power (mW) | Calculated Safe Distance @ $1\text{mW/cm}^2$ | Calculated Power Density @ 20cm | Minimum Separation Distance (cm) |
|------------------|----------------|------------------------|-------------------------|------------------------|--|---------------------------------|----------------------------------|
| 2400.0 - 2483.5  | 2.80           | 1.91                   | 29.66                   | 924.7                  | 11.8   | 0.35                            | 20.00                            |
| 5150.0 - 5250.0  | 3.60           | 2.29                   | 29.88                   | 972.7                  | 13.3   | 0.44                            | 20.00                            |
| 5725.0 - 5850.0  | 3.60           | 2.29                   | 29.76                   | 946.2                  | 13.1   | 0.43                            | 20.00                            |

### Assessment for simultaneous operation in 2.4 GHz and 5 GHz bands

The Aruba APEX0104 can transmit simultaneously in the 2.4 GHz and 5 GHz bands. The following assessment is based on simultaneous operation in the 2.4 GHz and 5 GHz bands.

| Freq. Band (MHz) | Antenna Gain (dBi) | Numeric Gain (numeric) | Peak Output Power (dBm) | Peak Output Power (mW) | Calculated Safe Distance @ $1\text{mW/cm}^2$ Limit(cm) | Minimum Separation Distance (cm) |
|------------------|--------------------|------------------------|-------------------------|------------------------|--|----------------------------------|
| 2400.0 - 2483.5  | 2.80               | 1.91                   | 29.66                   | 924.7                  | 11.8   | 20                               |
| 5150.0 - 5250.0  | 3.60               | 2.29                   | 29.88                   | 972.7                  | 13.3   | 20                               |
|                  |                    |                        | EIRP Total              |                        |  |                                  |
|                  |                    |                        | 3993.7 mW               |                        | 17.8   | 20.0                             |

**Note:** for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.



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**Specification**  
**Maximum Permissible Exposure Limits**

**FCC §1.1310** Limit =  $1\text{mW} / \text{cm}^2$  from 1.310 Table 1

**RSS-Gen §3.2** In addition to RSS-Gen, the requirements in Radio Standards Specification RSS-102 shall be met.

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575 Boulder Court  
Pleasanton, California 94566, USA  
Tel: +1 (925) 462 0304  
Fax: +1 (925) 462 0306  
[www.micomlabs.com](http://www.micomlabs.com)