



Radio Exposure Evaluation Report

FCC ID : UDX-60071010
Equipment : Network Camera
Brand Name : Cisco Systems, Inc.
Model Name : MV72-HW
Applicant / Manufacturer : Cisco Systems, Inc.
170 West Tasman Drive San Jose, CA. 95134 USA
Standard : 47 CFR Part 2.1091

The product was received on May 28, 2018, and testing was started from Jun. 16, 2018 and completed on Aug. 08, 2018. 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 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.)



Table of Contents

| | |
|---|----------|
| History of this test report | 3 |
| 1 General Description | 4 |
| 1.1 EUT General Information | 4 |
| 1.2 Testing Location | 4 |
| 2 Maximum Permissible Exposure | 5 |
| 2.1 Limit of Maximum Permissible Exposure | 5 |
| 2.2 MPE Calculation Method..... | 5 |
| 2.3 Calculated Result and Limit..... | 6 |
| Photographs of EUT V01 | |



History of this test report

| Report No. | Version | Description | Issued Date |
|-------------------|----------------|-------------------------|--------------------|
| FA851628 | 01 | Initial issue of report | Sep. 18, 2018 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Reviewed by: Jeremy Lin

Report Producer: Debby Hung

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 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) |
| Bluetooth | 2400-2483.5 | 2402-2480 | BR / EDR: FHSS (GFSK / $\pi/4$ -DQPSK / 8DPSK) 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. | | | |

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:

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

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

Wi-Fi 5G + BT Function:

| 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) |
|------------|----------|-------------|------------|----------------|--------------------|------------------|---------------|-------------------------|-------------------------------|-----------------|
| 5.3G;D1D | 4.90 | 21.46 | 26.36 | 0.50 | 26.86 | 0.48529 | 20 | 0.09655 | 1.00000 | 0.09655 |
| 2.4G;BT-BR | 5.20 | 8.49 | 13.69 | 0.50 | 14.19 | 0.02624 | 20 | 0.00522 | 1.00000 | 0.00522 |
| | | | | | | | | | Sum Ratio | 0.10177 |
| | | | | | | | | | Ratio Limit | 1 |

Wi-Fi 2.4G Function:

| 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 | 5.20 | 18.20 | 23.40 | 0.50 | 23.90 | 0.24547 | 20 | 0.04883 | 1.00000 |
| 2.4G;D1D | 5.20 | 19.78 | 24.98 | 0.50 | 25.48 | 0.35318 | 20 | 0.07026 | 1.00000 |

—————THE END—————