RADIO EXPOSURE TEST REPORT

FCC ID	:	UDX-60069010
Equipment	:	Network Camera
Brand Name	:	CISCO
Model Name	:	MV2-HW
Applicant	:	Cisco Systems, Inc. 170 West Tasman Drive, San Jose, CA 95134, USA
Manufacturer	:	Cisco Systems, Inc. 170 West Tasman Drive, San Jose, CA 95134, USA
Factory	:	LITE-ON Technology Corp. Networking Plant No. 101, Neihuan N. Rd., Nanzi Processing Export, Nanzi Dist., Kaohsiung City 811, Taiwan
Standard	:	47 CFR Part 2.1091

The product was received on Jan. 28, 2021, and testing was started from Jan. 29, 2021 and completed on Apr. 08, 2021. We, Sporton International Inc. Hsinchu 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 test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FA0D1713	01	Initial issue of report	May 14, 2021

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: Sam Chen

Report Producer: Viola 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)
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)
Bluetooth	2400-2483.5	2402-2480	BR / EDR: FHSS (GFSK / π/4-DQPSK / 8DPSK) LE: GFSK

1.2 Antenna Information

Ant.	Port		Bluetooth	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
	WLAN 2.4GHz	WLAN 5GHz						
1	2	2	2	Aristotle	RFA-25-10159-P1-V3	PIFA Antenna	I-PEX	Note 1
2	1	1	1	Aristotle	RFA-25-10159-P2	PIFA Antenna	I-PEX	

Note 1:

Ant.	Gain (dBi)		
	WLAN 2.4GHz	WLAN 5GHz	Bluetooth
1	1.3	2.25	1.3
2	2.68	2.67	2.68

Note 2: The above information was declared by manufacturer.

Note 3: The EUT has two antennas.

For 2.4GHz WLAN function

IEEE 802.11b/g/n mode (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both port 1 and port 2 support transmit and receive functions, but only one of them will be used at one time.

The port 1 generated the worst case, so it was selected to test and record in the report.

For 5GHz WLAN function

IEEE 802.11a/n/ac mode (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both port 1 and port 2 support transmit and receive functions, but only one of them will be used at one time.

The port 1 generated the worst case, so it was selected to test and record in the report.

For Bluetooth function (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both port 1 and port 2 support transmit and receive functions, but only one of them will be used at one time.

The port 1 generated the worst case, so it was selected to test and record in the report.

1.3 Accessories

Accessories			
Equipment Name	**Brand Name**	**Model Name**	**Rating**
AC Adapter	CISCO	MA-PWR-USB-US	INPUT: 100-240V, 50-60Hz, 0.32A max OUTPUT: 5.0V, 2.0A
Others			
USB cable*1, Shielded, 3m			
Wall Mount*1			

1.4 Testing Location

Testing Location Information	
Test Lab.：Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	TEL: 886-3-656-9065 FAX: 886-3-656-9085
	Test site Designation No. TW3787 with FCC.
	Test site registered number IC 4086D 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/ 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 20 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

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	2.68	22.60	25.28	0.50	25.78	0.37844	20	0.07529	1.00000
5.2G;D1D	2.67	19.62	22.29	0.50	22.79	0.19011	20	0.03782	1.00000
5.3G;D1D	2.67	20.39	23.06	0.50	23.56	0.22699	20	0.04516	1.00000
5.6G;D1D	2.67	21.62	24.29	0.50	24.79	0.30130	20	0.05994	1.00000
5.8G;D1D	2.67	22.69	25.36	0.50	25.86	0.38548	20	0.07669	1.00000
2.4G;BT-BR	2.68	10.32	13.00	0.50	13.50	0.02239	20	0.00445	1.00000
2.4G;BT-LE	2.68	1.01	3.69	0.50	4.19	0.00262	20	0.00052	1.00000

———THE END———