EXPOSURE REPORT

REPORT NO.: SA140820C01
MODEL NO.: MR32-HW
FCC ID: UDX-60031010
RECEIVED: Aug. 04, 2014
TESTED: Aug. 04 ~ Sep. 16, 2014
ISSUED: Sep. 17, 2014

APPLICANT: Cisco Systems, Inc.

ADDRESS: 170 West Tasman Drive, San Jose, CA 95134

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140820C01	Original release	Sep. 17, 2014

1. CERTIFICATION

PRODUCT:	Wireless 802.11 abgn/ac AP
MODEL NO.:	MR32-HW
BRAND:	Cisco
APPLICANT:	Cisco Systems, Inc.
TESTED:	Aug. 04 ~ Sep. 16, 2014
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 2 (Section 2.1091)**
	KDB 447498 D03
	IEEE C95.1

The above equipment (model: MR32-HW) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Celine Chou , **DATE :** Sep. 17, 2014

Celine Chou / Specialist

APPROVED BY : Ken Liu , **DATE :** Sep. 17, 2014

Ken Liu / Senior Manager

2. RF EXPOSURE

2.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm^2)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500			F/1500	30
1500-100,000			1.0	30

F = Frequency in MHz

2.2 MPE CALCULATION FORMULA

$Pd = (Pout*G) / (4*pi*r^2)$
where
Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416
R = distance between observation point and center of the radiator in cm

2.3 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 29cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

RADIO	TX	FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
1	1TX	2412-2462	26.26	5.05	29	0.1279	1
	2TX	2412-2462	29.35	7.79	29	0.4898	1
2	1TX	5180-5240	25.25	5.31	29	0.1076	1
	1TX	5745-5825	22.35	5.60	29	0.0590	1
	2TX	5180-5240	28.22	8.20	29	0.4149	1
	2TX	5745-5825	**25.26**	**8.37**	29	0.2183	1
3	1TX	2412-2462	21.26	2.38	29	0.0219	1
	1TX	5180-5240	17.21	4.22	29	0.0132	1
	1TX	5745-5825	20.92	3.22	29	0.0245	1
4	-	2402-2480	3.43	0.67	29	0.0002	1

NOTE:

1. 2TX (Radio 1): Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2 /N_{ANT}]= 7.79dBi
2. 2TX (Radio 2): 5180-5240MHz: Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2 /N_{ANT}]= 8.20dBi
   5745-5825MHz: Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2 /N_{ANT}]= 8.37dBi

FREQUENCY BAND	MAX POWER (dBm)				TOTAL POWER (dBm)	POWER LIMIT (dBm)
	RADIO 1	RADIO 2	RADIO 3	RADIO 4		
2.4GHz	29.35	-	21.26	3.43	29.99	30
5180-5240MHz	-	28.22	17.21	-	28.55	30
5745-5825MHz	-	25.26	20.92	-	26.62	30

CONCLUSION:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Radio 1 + Radio 2 + Radio 3 (2.4G) + Radio 3 (5GHz) + Radio 4 = 0.4898 + 0.4149 + 0.0219 + 0.0245 + 0.0002 = 0.9514

Therefore the maximum calculations of above situations are less than the “1” limit.