RF EXPOSURE REPORT

REPORT NO.:	SA980406H01E R1
MODEL NO.:	AP-7131N
FCC ID:	UZ7AP7131N
RECEIVED:	Nov. 06, 2012
TESTED:	Dec. 13 to 14, 2012
ISSUED:	Mar. 15, 2013

APPLICANT:	Motorola Solutions, Inc.
ADDRESS:	One Motorola Plaza Holtsville, NY, 11742

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
LAB ADDRESS:	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (1):	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA980406H01E	Original release	Jan. 24, 2013
SA980406H01E R1	Modified output power.	Mar. 15, 2013

1. CERTIFICATION

PRODUCT:	11n Access-Point
BRAND NAME:	Motorola
MODEL NO.:	AP-7131N
TEST SAMPLE:	R&D SAMPLE
APPLICANT:	Motorola Solutions, Inc.
TESTED DATE:	Dec. 13 to 14, 2012
STANDARDS:	FCC Part 2 (Section 2.1091)
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (Model: AP-7131N) 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 : _____ , **DATE:** *Mar. 15, 2013*
(Elsie Hsu, Specialist)

APPROVED BY : _____ , **DATE:** *Mar. 15, 2013*
(May Chen, Manager)

2. RF EXPOSURE LIMIT

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

3. 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

4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 28cm away from the body of the user. So, this device is classified as **Mobile Device**.

5. ANTENNA GAIN

No	Brand	Model	Antenna Type	Connecter Type (External only)	Frequency range (MHz)	Indoor or Outdoor
13	Motorola	ML-2499-BPNA3-01R	Directional Panel	N-Type Female	2400~2500	Outdoor
14	Motorola	ML-2499-FHPA9-01R	Dipole Omni	Type-N-Male	2400~2500	Outdoor
15	Motorola	ML-5299-FHPA6-01R	Omni-Directional	N male	5150-5875	Outdoor

No	Brand	Model	Gain (dBi)	Cable Loss(dB) (External only, if any)	Net Gain (dB)	Cable Length (External only, if any)
13	Motorola	ML-2499-BPNA3-01R	15.5	0.88	14.62	30.5cm
14	Motorola	ML-2499-FHPA9-01R	10.5	0.88	9.62	30.5cm
15	Motorola	ML-5299-FHPA6-01R	8.25	1.54	6.71	30.5cm

Note :
1. For Radio card 1: The antennas 13~14 will be use, therefore antenna 13,14, were chosen for final test.
2. For Radio card 2: The antennas 15 will be use, therefore antenna 15, were chosen for final test.

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For 15.247(2.4GHz): (Antenna 13)

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	110.694	14.62	28	0.32553	1

For 15.247(2.4GHz): (Antenna 14)

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	344.994	9.62	28	0.32084	1

For 15.247(5GHz): (Antenna 15)

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	579.528	6.71	28	0.27577	1

For 15.407(5GHz): (Antenna 15)

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5180 ~ 5700	45.318	8.5	28	0.06383	1

CONCLUSION:

Both of the 2.4GHz and 5GHz WLAN can transmit simultaneously, the formula of calculated the MPE is:

$CPD_1 / LPD_1 + CPD_2 / LPD_2$ + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is 0.32553 / 1 + 0.27577 / 1 = 0.6013, which is less than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

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