RF EXPOSURE REPORT

REPORT NO.:	SA111028C08
MODEL NO.:	21-148603-0A
FCC ID:	UZ7211486030A
RECEIVED:	Oct. 28, 2011
TESTED:	Nov. 23 to 26, 2011
ISSUED:	Mar. 09, 2012

APPLICANT:	Motorola Solutions, Inc.
ADDRESS:	1 Motorola Plaza, Holtsville, NY 11742-1300 USA

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

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA111028C08	Original release	Mar. 09, 2012

1. CERTIFICATION

PRODUCT:	Radio Module
BRAND NAME:	Motorola
MODEL NO.:	21-148603-0A
PART NO.:	21-148603-01
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Motorola Solutions, Inc.
TESTED DATE:	Nov. 23 to 26, 2011
STANDARDS:	FCC Part 2 (Section 2.1091) FCC OET Bulletin 65, Supplement C (01-01) IEEE C95.1

The above equipment (Model: 21-148603-0A) 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. 09, 2012*
(Midoli Peng, Specialist)

APPROVED BY : _____, **DATE:** *Mar. 09, 2012*
(May Chen, Deputy 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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

5. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For WLAN: 15.247(2.4GHz)

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412 - 2462	257.0	2.25	20	0.087	1.00

For WLAN: 15.247(5GHz)

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5745 - 5825	158.5	3.7	20	0.074	1.00

For WLAN: 15.407(5GHz)

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5180 -5240, 5260 - 5320, 5500 - 5580 & 5660 - 5700	102.3	3.7	20	0.048	1.00

For Bluetooth:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2402-2480	9.226	2.25	20	0.003	1.00

CONCLUSION:

Both of the WLAN(5GHz band) and Bluetooth 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 0.074 / 1 + 0.003 / 1= 0.077, which is less than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

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