RF EXPOSURE REPORT

REPORT NO.: SA110317E07A

MODEL NO.: HES-209M2W

FCC ID: ZMYHES209M2W

APPLICANT: MitraStar Technology Corporation

ADDRESS: No. 6, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan (R.O.C.)

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

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA110317E07A	Original release	Sep. 14, 2011

1.CERTIFICATION

PRODUCT:	WiMAX Indoor VoIP Wi-Fi IAD
BRAND NAME:	MitraStar
MODEL NO.:	HES-209M2W
TEST SAMPLE:	MASS-PRODUCTION
APPLICANT:	MitraStar Technology Corporation
STANDARDS:	FCC Part 2 (Section 2.1091)
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (Model: HES-209M2W) 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:** *Sep. 14, 2011*
(Claire Kuan, Specialist)

APPROVED BY : _____ , **DATE:** *Sep. 14, 2011*
(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*r2)

where

Pd = power density in mW/cm2

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 **user stations**.

5. Calculation result of maximum conducted power

For WiFi:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	302.0	2	20	0.095	1.00

For WiMAX:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2498.5-2687.5	489.779	7	20	0.488	1.00

CONCLUSION:

Both of the WiFi and WiMAX 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 0.095 / 1 + 0.488 / 1= 0.583, which is less than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

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