RF Exposure Report

Report No.:	SA170411E14B
FCC ID:	ZMYHGW500SN2A4Q
Test Model:	HGW-500SN2A4-Q
Received Date:	Oct. 30, 2017
Test Date:	Nov. 20 to 21, 2017
Issued Date:	Dec. 21, 2017
Applicant:	MitraStar Technology Corporation
Address:	No. 6, Innovation Rd II, Science-Based Industrial, Hsin-Chu, Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
SA170411E14B	Original release.	Dec. 21, 2017

1 Certificate of Conformity

Product:	Base Port2 , Adaptador Wifi+ Dual
Brand:	MitraStar
Test Model:	HGW-500SN2A4-Q
Sample Status:	ENGINEERING SAMPLE
Applicant:	MitraStar Technology Corporation
Test Date:	Nov. 20 to 21, 2017
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06

The above equipment 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 : Mary Ko , **Date:** Dec. 21, 2017

Mary Ko / Specialist

Approved by : , **Date:** Dec. 21, 2017

May Chen / 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				
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

f = Frequency in MHz ; *Plane-wave equivalent power density

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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

Frequency range (MHz)	Directional Antenna Gain (dBi)
2412 ~ 2462	5.502 (3.8 for 1TX)
5180 ~ 5240	7.59
5260 ~ 5320	7.62
5500 ~ 5580 5660 ~ 5700	6.86
5745 ~ 5825	6.66

2.5 Calculation Result

Frequency Band (MHz)	Max. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	339.572	5.502	20	0.23981	1
5180-5240	275.729	7.59	20	0.31493	1
5745-5825	611.422	6.66	20	0.56373	1

Conclusion:
The formula of calculated the MPE is:
CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1
CPD = Calculation power density
LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.23981 / 1 + 0.56373 / 1 = 0.80354

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

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