RF Exposure Report

Report No.:	SA150204C08
FCC ID:	GZ5NVG34NX4
Test Model:	NVG348BQ
Series Model:	NVG348Q, NVG343BQ
Received Date:	Feb. 04, 2015
Test Date:	Feb. 07 ~ Mar. 04, 2015
Issued Date:	Mar. 09, 2015
Applicant:	ARRIS Group,Inc.
Address:	2500 Walsh Ave. Santa Clara,CA 95051 USA
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
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
SA150204C08	Original release.	Mar. 09, 2015

1 Certificate of Conformity

Product:	NVG34X Series VDSL2 Gateway
Brand:	ARRIS
Test Model:	NVG348BQ
Series Model:	NVG348Q, NVG343BQ
Sample Status:	Engineering sample
Applicant:	ARRIS Group,Inc.
Test Date:	Feb. 07 ~ Mar. 04, 2015
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D03 IEEE C95.1

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 : _____ , **Date:** Mar. 09, 2015

Pettie Chen / Senior Specialist

Approved by : _____ , **Date:** Mar. 09, 2015

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 24cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
Beamform off					
2412-2462	26.74	7.38	24	0.357	1
5180-5240	24.88	10.04	24	0.429	1
5745-5825	25.53	10.86	24	0.602	1
Beamform on					
5180-5240	23.46	10.04	24	0.309	1
5745-5825	23.43	10.86	24	0.371	1

NOTE:

2.4GHz:

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/2]$= 7.38 dBi

5.0GHz:

5180-5240MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4]$= 10.04 dBi

5745-5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4]$= 10.86 dBi

CONCULSION:

Both of the WLAN 2.4G & WLAN 5G can transmit simultaneously, the formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4G + WLAN 5.0G = 0.357 + 0.602 = 0.959

Therefore, the maximum calculation of this situation is 0.959, which is less than the “1” limit.

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