RF Exposure Report

Report No.:	SA160718E04
FCC ID:	ACQ-VIP4402W
Test Model:	VIP4402W
Received Date:	June 18, 2016
Test Date:	July 21, 2016
Issued Date:	July 28, 2016
Applicant:	ARRIS GROUP, INC.
Address:	6450 Sequence Drive, San Diego, CA USA, 92121
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
SA160718E04	Original release.	July 28, 2016

1 Certificate of Conformity

Product:	IP SET TOP BOX
Brand:	ARRIS
Test Model:	VIP4402W
Sample Status:	ENGINEERING SAMPLE
Applicant:	ARRIS GROUP, INC.
Test Date:	July 21, 2016
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.1-1992

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:** July 28, 2016

Claire Kuan / Specialist

Approved by : _____ , **Date:** July 28, 2016

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

2.4 Antenna Gain

Gain (dBi)	Frequency range	Antenna Type	Antenna Connector
4.31	2400MHz	printed	NA
4.38	2450MHz		
3.12	2500MHz		

2.5 Calculation Result Of Maximum Conducted Power

BT-EDR

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2402-2480	3.304	4.38	20	0.00180	1

BT-LE

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2402-2480	4.55	4.38	20	0.00248	1

WLAN (WiFi Wireless Module, FCC ID: ACQ-MT76125G)

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
5180-5240 5745-5825	76.831	6.58	20	0.06954	1

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

Bluetooth + WLAN 5GHz = 0.00248 / 1 + 0.06954 / 1 = 0.07202

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

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