RF Exposure Report

Report No.:	SA170413C60
FCC ID:	VUISPECTRUM-T
Test Model:	Spectrum210-T
Series Model:	Spectrum110-T
Received Date:	Apr. 13, 2017
Test Date:	Apr. 22 to 24, 2017
Issued Date:	May 24, 2017
Applicant:	PEGATRON CORPORATION
Address:	5F, No. 76 Ligong St., Beitou, Taipei 112, 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
SA170413C60	Original release.	May 24, 2017

1 Certificate of Conformity

Product:	STB
Brand:	Technicolor
Test Model:	Spectrum210-T
Series Model:	Spectrum110-T
Sample Status:	ENGINEERING SAMPLE
Applicant:	PEGATRON CORPORATION
Test Date:	Apr. 22 to 24, 2017
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 : Cindy Hsin , **Date:** May 24, 2017

Cindy Hsin / Specialist

Approved by : , **Date:** May 24, 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				
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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

For Bluetooth				
Antenna Net. Gain(dBi)	Frequency range (GHz)	Antenna Type	Antenna Connector	Cable Length (mm)
4.01	2.4~2.5	PCB	i-pex(MHF)	113mm
For Zigbee				
Antenna Net. Gain(dBi)	Frequency range (GHz)	Antenna Type	Antenna Connector	Cable Length (mm)
3.2	2.4~2.5	PCB	NA	NA

2.5 Calculation Result of Maximum Conducted Power

BT-EDR

Frequency (MHz)	Max. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2402 ~ 2480	3.451	4.01	20	0.00173	1

BT-LE

Frequency (MHz)	Max. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2402 ~ 2480	2.582	4.01	20	0.00129	1

Zigbee

Frequency (MHz)	Max. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2425 ~ 2475	2.588	3.2	20	0.00108	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 + Zigbee = 0.00173 / 1 + 0.00108 / 1 = 0.00281

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

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