RF Exposure Report

Report No.: SA170510C11

FCC ID: VUICGA4131

Test Model: CGA4131

Series Model: CGA4131XXXXX (X = 0-1, A-Z, a-z, "-" or blank, for marketing purpose)

Received Date: May 10, 2017

Test Date: May 22, 2017

Issued Date: June 08, 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
SA170510C11	Original release.	June 08, 2017

1   Certificate of Conformity

Product:	D3.1 Cable Gateway
Brand:	Technicolor
Test Model:	CGA4131
Series Model:	CGA4131XXXXX (X = 0-1, A-Z, a-z, "-" or blank, for marketing purpose)
Sample Status:	ENGINEERING SAMPLE
Applicant:	PEGATRON CORPORATION
Test Date:	May 22, 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.
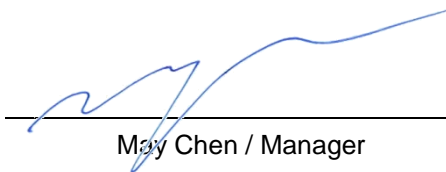

Prepared by : _____ , **Date:** _____June 08, 2017_____

Claire Kuan / Specialist

Approved by : _____ , **Date:** _____June 08, 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 26cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4   Antenna Gain

2.4GHz					
Transmitter Circuit	Antenna Net Gain(dBi)	Frequency range (MHz)	Antenna Type	Connecter Type	Cable Length
Chain 0	2.0	2400 ~ 2483.5	PCB	i-pex(MHF)	95mm
Chain 1	2.0	2400 ~ 2483.5	PCB	i-pex(MHF)	210mm
5GHz					
Transmitter Circuit	Antenna Net Gain(dBi)	Frequency range (MHz)	Antenna Type	Connecter Type	Cable Length
Chain 0	2.1	5150 ~ 5250	PCB	i-pex(MHF)	95mm
	2.6	5250 ~ 5350	PCB	i-pex(MHF)	155mm
	2.4	5470 ~ 5725			
	2.4	5725 ~ 5850			
Chain 1	2.7	5150 ~ 5250	PCB	i-pex(MHF)	210mm
	2.3	5250 ~ 5350	PCB	i-pex(MHF)	135mm
	2.3	5470 ~ 5725			
	2.7	5725 ~ 5850			
Chain 2	2.7	2400 ~ 2483.5	PCB	i-pex(MHF)	170mm
	2.6	5150 ~ 5250			
	2.4	5250 ~ 5350			
	2.4	5470 ~ 5725			
	2.4	5725 ~ 5850			
Chain 3	3.5	5150 ~ 5250	PCB	i-pex(MHF)	240mm
	3.0	5250 ~ 5350			
	3.4	5470 ~ 5725			
	3.9	5725 ~ 5850			

2.5 Calculation Result

Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	537.032	5.01	26	0.10019	1
5180-5240	844.646	8.78	26	0.75079	1
5745-5825	995.2	8.89	26	0.90730	1

Note:

2.4GHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 5.01 dBi$
5GHz:
UNII-1: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 8.78 dBi$
UNII-3: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 8.89 dB$

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