RF Exposure Report

Report No.:	SA161028C01
FCC ID:	VPQ-PIXIUMDHXA222 & VPQ-PN7120
Test Model:	DHXA-222 & PN7120
Received Date:	Nov. 11, 2016
Test Date:	Jan. 21 ~ Feb. 23, 2017
Issued Date:	Mar. 07, 2017
Applicant:	TRIXELL
Address:	460, rue du Pommarin 38430 Moirans, France
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, R.O.C.
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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Release Control Record

Issue No.	Description	Date Issued
SA161028C01	Original release.	Mar. 07, 2017

1 Certificate of Conformity

Product:	pixium 3543 DR & NFC Module
Brand:	TRIXELL
Test Model:	DHXA-222 & PN7120
Sample Status:	Engineering sample
Applicant:	TRIXELL
Test Date:	Jan. 21 ~ Feb. 23, 2017
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 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. 07, 2017

Suntee Liu / Specialist

Approved by : _____ , **Date:** Mar. 07, 2017

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				
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

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

3 Calculation Result of Maximum Conducted Power

This is X-ray detector device, it will not be closed to the human bodies while radio operation, so it is declared as a mobile device. However it will be closed to the bodies if using X-ray.

Module DHXA-222					
Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN 2412~2462	20.21	2.24	20	0.035	1
WLAN 5180~5240	17.78	4.84	20	0.036	1
WLAN 5260~5320	18.21	4.84	20	0.040	1
WLAN 5500~5700	18.26	4.84	20	0.041	1
WLAN 5745~5825	17.42	4.84	20	0.033	1

Note:
2.4GHz: Directional gain = -0.77dBi + 10log(2) = 2.24dBi
5GHz: Directional gain = 1.83dBi + 10log(2) = 4.84dBi

Module PN7120				
Frequency Band (MHz)	Electric field (dBuV/m) @3m	Max Power (dBm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
NFC 13.56	59.10	-36.13	0.00000005	0.978

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

Module DHXA-222 + Module PN7120 = 0.041/1 + 0.00000005/0.978 = 0.041 < 1
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