

## RF Exposure Report

**Report No.:** SA180717C29

**FCC ID:** LY5-PCITP1

**Contains FCC ID:** LY5-PCITP100

**Test Model:** PCI-TP1

**Received Date:** Jul. 17, 2018

**Date of Evaluation:** Mar. 21, 2019

**Issued Date:** Mar. 27, 2019

**Applicant:** PCI Private Limited

**Address:** 35 Pioneer Rd North, Singapore 628475

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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**Test Location:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Vil, Kwei Shan Dist., Taoyuan City 33383, Taiwan (R.O.C)

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
SA180717C29	Original Release	Mar. 27, 2019

## 1 Certificate of Conformity

**Product:** Telematics Platform 1

**Brand:** PCI

**Test Model:** PCI-TP1

**Sample Status:** Production Unit

**Applicant:** PCI Private Limited

**Date of Evaluation:** Mar. 21, 2019

**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 RF characteristics under the conditions specified in this report.

**Prepared by :** \_\_\_\_\_

*Lena Wang*

**Date:** \_\_\_\_\_

Mar. 27, 2019

Lena Wang / Specialist

**Approved by :** \_\_\_\_\_

*Dylan Chiou*

**Date:** \_\_\_\_\_

Mar. 27, 2019

Dylan Chiou / Project Engineer

## 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 <sup>2</sup> )	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 <sup>2</sup> )*	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

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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 28cm away from the body of the user.

So, this device is classified as **Mobile Device**.

### 2.4 Antenna Gain

WWAN Antenna:

Antenna Type	Antenna Gain (dBi)							
	GSM850	PCS1900	WCDMA II	WCDMA IV	WCDMA V	LTE 2	LTE 4	LTE 12
Metal stamp	0.65	2.68	2.68	2.26	0.65	2.68	2.26	-0.8

WLAN Antenna:

Antenna Type	Antenna Gain (dBi)				
	BT/ WLAN 2.4GHz	WLAN 5.18~5.24 GHz	WLAN 5.26~5.32 GHz	WLAN 5.47~5.725 GHz	WLAN 5.725~5.85 GHz
Flex	4.21	4.3	4.14	3.62	4.16..

## 2.5 Calculation Result of Maximum Conducted Power

Band	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
GSM850	824-849	33	0.65	28	0.235	0.55
PCS1900	1850-1910	30	2.68	28	0.188	1
WCDMA II	1850-1910	24	2.68	28	0.047	1
WCDMA IV	1710-1755	24	2.26	28	0.043	1
WCDMA V	824-849	24	0.65	28	0.03	0.55
LTE 2	1850-1910	23	2.68	28	0.038	1
LTE 4	1710-1755	23	2.26	28	0.034	1
LTE 12	699-716	23	-0.8	28	0.017	0.47
WLAN	2412-2462	16	4.21	28	0.011	1
	5180-5240	16	4.3	28	0.011	1
	5260-5320	16	4.14	28	0.01	1
	5500-5700	16	3.62	28	0.009	1
	5745-5825	16	4.16	28	0.011	1
BT	2402-2480	6.32	4.21	28	0.001	1

Note: Above use Max. Output Power is Max. Tune-up Power.

### Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

$WLAN + WWAN + BT = 0.011/1 + 0.235/0.55 + 0.001/1 = 0.439$

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

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