

## 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

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**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 :**

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, **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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