

**TEST REPORT****Report number: DRTTEC1705-0065(1)****Issue Date: Jun. 5, 2017**

|                      |  |
|----------------------|--|
| Applicant            | : POINT MOBILE CO.,LTD<br>B-9F Kabul Great Valley, 32, Digital-ro 9-gil,<br>Geumcheon-gu, Seoul, Korea, 08512  |
| Equipment under test | : MOBILE COMPUTER  |
| Model Name           | : PM80   |
| Serial Number        | : Identical prototype  |
| Test Method          | : The Ministry of Internal Affairs and Communications<br>notification in Annex 43* of Article 88 *Annex 43 is<br>the statement in the case of Bluetooth. |
| Date of Test         | : 2017-03-28 ~ 2017-06-05  |
| Test Place           | : DT&C Co., Ltd.<br>42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si,<br>Gyeonggi-do, Korea 449-935   |
| Test Results         | : PASS (Refer to attachment.)  |

The results in this reports are applicable only to the samples tested.  
This report shall not be re-produced except in full without the written approval of  
DT&C Co., Ltd.

Tested Engineer;

ChulMin Kim

Approval Person;

GeunKi Son

## 1. Test Results

|                          |             |                         |
|--------------------------|-------------|-------------------------|
| Environment of Test Room | Test Date   | 2017-03-28 ~ 2017-06-05 |
|                          | Temperature | 20 ~ 23 °C              |
|                          | Humidity    | 50 ~ 54 %               |

|                          |                |                 |
|--------------------------|----------------|-----------------|
| Peak Antenna Gain        | -0.37          | dBi             |
| Declaration Output Power | 0.14           | mW/MHz          |
| Declaration Output Power | -8.5387        | dBm/MHz         |
| <b>E.I.R.P.</b>          | <b>-8.9087</b> | <b>dBm/ MHz</b> |
| Input Power Voltage      | 3.8            | VDC             |

|  |          |       |      |
|--|----------|-------|------|
| Tested Circuit Insertion Loss            |          | 0     | dB   |
| Frequency equal to the Transmission rate |          | 1     | MHz  |
| Transmission Time                        | ON TIME  | 2.885 | ms   |
|  | OFF TIME | 0.865 | ms   |
|  | Ratio    | 77%   | %    |
| Packet Type (Mode)                       |          | 2DH5  | mode |
| Transmit Speed                           |          | 1     | MHz  |

Note: The insertion loss was corrected during the test.

|  |  |
|--|--|
| Test Category ;  | 2.4GHz Band Wideband Low-Power Data Communication System Bluetooth $\pi/4$ -DQPSK  |
| The reason why the tests are performed only at rated voltage : | When the input voltage to receiver RF circuit varies below $\pm 1\%$ as the input voltage from the external power supply to the receiver varies $\pm 10\%$ (excluding power supply). |

| Measurement Frequency               |                     | MHz    | 2402        | 2441        | 2480        | Result | Limit                           | Note               |
|-------------------------------------|---------------------|--------|-------------|-------------|-------------|--------|---------------------------------|--------------------|
| Channel Number                      |                     | Ch.    | 1           | 40          | 79          | ---    | ---                             |                    |
| Reading Frequency                   |                     | MHz    | 2402.024825 | 2441.025425 | 2480.025350 | ---    | ---                             |                    |
| Frequency Tolerance                 |                     | ppm    | 10.33514    | 10.41581    | 10.22177    | PASS   | $\pm 50 \times 10^{-6}$ (50ppm) |                    |
| Occupied Bandwidth                  |                     | MHz    | 78.223      |             |             | PASS   | 83.5MHz or below                |                    |
| Spread Bandwidth                    |                     | MHz    | 68.627      |             |             | PASS   | 500kHz or more                  |                    |
| RF Output Power                     |                     | mW/MHz | 0.094927    | 0.088387    | 0.097587    | PASS   | 3mW/MHz or below                |                    |
| RF Output Power Tolerance           |                     | %      | -32.194894  | -36.866132  | -30.295246  | PASS   | +20 to -80%                     |                    |
| Tx Spurious Emission Strength       | 30 to 2387MHz       | uW/MHz | 0.108893    |             |             | PASS   | 2.5uW/MHz or below              |                    |
|                                     |                     | MHz    | 2380.700    |             |             | ----   |                                 |                    |
|                                     | 2387 to 2400MHz     | uW/MHz | 4.187936    |             |             | PASS   | 25uW/MHz or below               |                    |
|                                     |                     | MHz    | 2399.996    |             |             | ----   |                                 |                    |
|                                     | 2483.5 to 2496.5MHz | uW/MHz | 0.091622    |             |             | PASS   | 25uW/MHz or below               |                    |
|                                     |                     | MHz    | 2486.039    |             |             | ----   |                                 |                    |
|                                     | 2496.5 to 12500MHz  | uW/MHz | 0.228034    |             |             | PASS   | 2.5uW/MHz or below              |                    |
|                                     |                     | MHz    | 12413.000   |             |             | ----   |                                 |                    |
| Rx Spurious Emission Strength       | 10 to 1000MHz       | nW     | 0.026669    |             |             | PASS   | 4nW or below                    |                    |
|                                     |                     | MHz    | 930.700     |             |             | ----   |                                 |                    |
|                                     | 1000 to 5000MHz     | nW     | 0.439542    |             |             | PASS   | 20nW or below                   |                    |
|                                     |                     | MHz    | 2692.000    |             |             | ----   |                                 |                    |
|                                     | 5000 to 12500MHz    | nW     | 0.805378    |             |             | PASS   | 20nW or below                   |                    |
|                                     |                     | MHz    | 7535.000    |             |             | ----   |                                 |                    |
| Time of occupancy hopping frequency |                     | sec    | 0.002880    |             |             | PASS   | 0.4sec or below                 |                    |
|                                     |                     | sec    | 0.288000    |             |             | PASS   | 0.4sec or below                 | 0.4secxSpread rate |
| Spreading Factor                    |                     | ---    | 68.627000   |             |             | PASS   | 5 or more                       |                    |
| Interference Prevention Function    |                     | ----   | Good        | Good        | Good        | PASS   |                                 |                    |

## 2. List of Measuring Instruments

[illegible]

Note1: 測定機器の較正は、1 年間有効です。

The calibration of measurement equipment is valid for one year period.

Note2: "X" は使用した測定機器です。

"X" used equipment.

Note3: 較正方法 ...

イ) 独立行政法人情報通信研究機構(以下「機構」という。)又は第百二条の十八第一項の指定較正機関が行う較正

a): Calibration conducted by the National Institute of Information and Communications Technology(NICT)(hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1)

ロ:計量法(平成四年法律第五十一号)第百三十五条又は第百四十四条の規定に基づく校正

b): Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)

ハ)：外国において行う較正であつて、機構又は第百二条の十八第一項の指定較正機関が行う較正に相当するもの

c): Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)

二)：別表第三の下欄に掲げる測定器その他の設備であつて、イからハまでのいずれかに掲げる較正等を受けたものを用いて行う較正等

d): Calibration conducted by using measuring instruments and other equipment listed in the right column of Table No. 3 attached hereto, which shall have been given any of calibration, etc. listed above from a) to c)

### 3. Uncertainty

| 判定  | 測定データにおける不確かさの判断とその範囲   |  |
|-----|---|--|
| 適合  | 例 A <p>測定結果と不確かさは与えられた限度値内に入っています。これを『適合』と呼びます。</p>               |  |
|     | 例 B <p>完全には、限度値内でも限度値外でもありません。この場合の適合性については、確実な結論を出すことは出来ません。</p> |  |
| 不適合 | 例 C <p>完全には、限度値内でも限度値外でもありません。この場合の適合性については、確実な結論を出すことは出来ません。</p> |  |
|     | 例 D <p>測定結果も不確かさも与えられた限度値内に入っていません。これは『不適合』と呼びます。</p>             |  |



#### **4. Configuration Photographs**

**Conducted Measurement Photo**



## 5. Trace Data

### 5.1 Frequency Tolerance

Ch.1: 2402MHz



Ch.40: 2441MHz

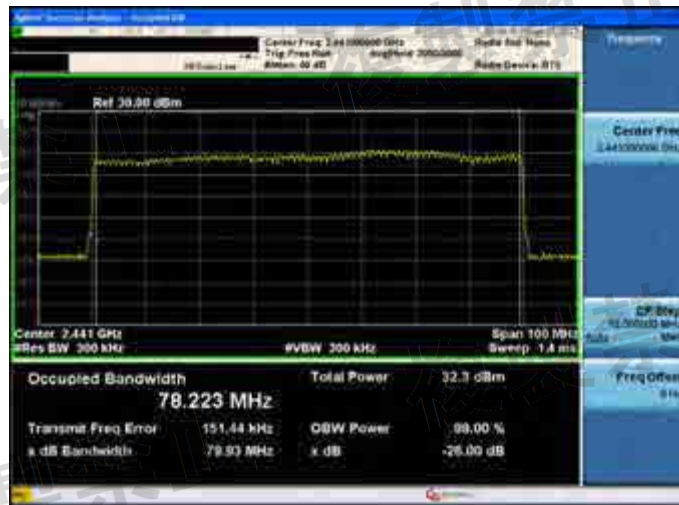


Ch.79: 2480MHz



## 5.2 Occupied and Spread Bandwidth

Occupied Bandwidth

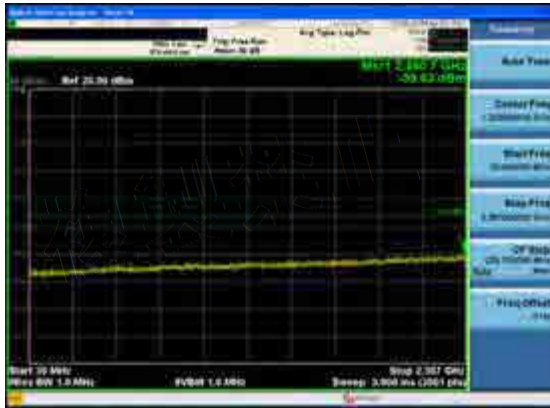


Spread Bandwidth

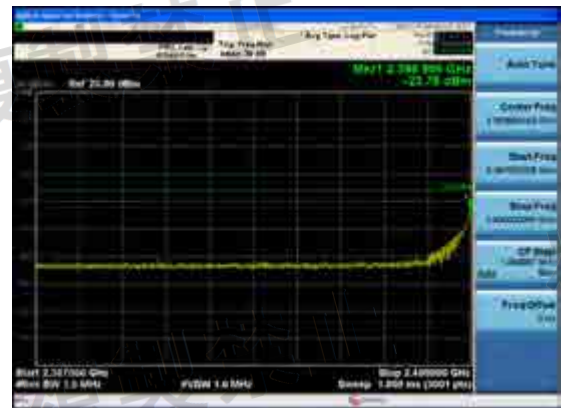


### 5.3 Tx Spurious Emission Strength

30-2387MHz



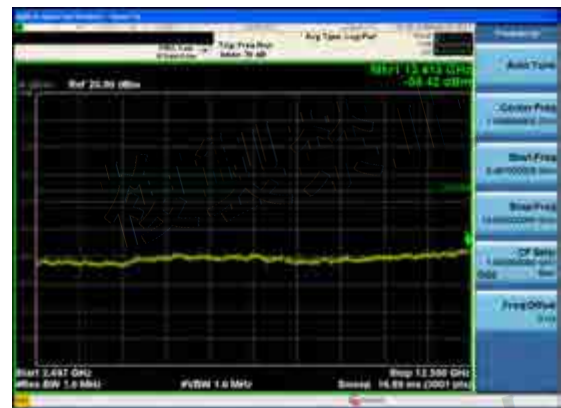
2387-2400MHz



2483.5-2496.5MHz



2496.5-12500MHz





### 5.4 RF Output Power

Ch.1: 2402MHz



Ch.40: 2441MHz

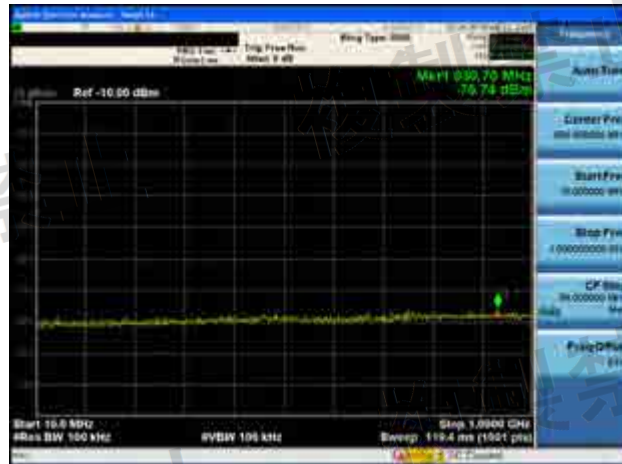


Ch.79: 2480MHz

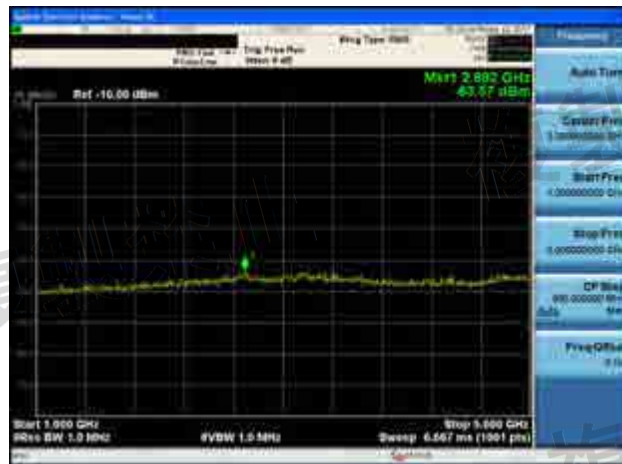


### 5.5 Rx Spurious Emission Strength

10MHz-1GHz



1-5GHz



5-12.5GHz



### 5.6 Hopping Frequency Dwell Time

ON/OFF

