



# SAR Evaluation Report

**Application No.:** SZEM2004002440CR  
**Applicant:** Dspread Technology (Beijing) Inc  
**Address of Applicant:** Rm.407, b12c. #10 (Universal Business Park), Jiuxianqiao Road, Chaoyang District, Beijing, China 100027  
**Manufacturer:** Dspread Technology (Beijing) Inc  
**Address of Manufacturer:** Rm.407, b12c. #10 (Universal Business Park), Jiuxianqiao Road, Chaoyang District, Beijing, China 100027  
**Factory:** SHENZHEN WINSTAR PRECISION ELECTRONICS CO., LTD.  
**Address of Factory:** Layer 5, Building 28, Shancheng Industry Park, Shiyan Country, Baoan District, Shenzhen, Guangdong, P.R.China  
**Equipment Under Test (EUT):**  
**EUT Name:** Mobile POS  
**Model No.:** QPOS Cute  
**Trade Mark:** Dspread  
**FCC ID:** 2AGQ6-CUTE  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2020-04-10  
**Date of Test:** 2020-04-10 to 2020-06-04  
**Date of Issue:** 2020-06-05

|                      |              |
|----------------------|--------------|
| <b>Test Result :</b> | <b>PASS*</b> |
|----------------------|--------------|

\* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu

Keny Xu  
EMC Laboratory Manager



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch EMC Laboratory

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## 2 Version

| Revision Record |         |            |          |          |
|-----------------|---------|------------|----------|----------|
| Version         | Chapter | Date       | Modifier | Remark   |
| 01              |         | 2020-06-05 |          | Original |
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|                 |         |            |          |          |

|                          |  |                               |  |  |
|--------------------------|--|-------------------------------|--|--|
| Authorized for issue by: |  |                               |  |  |
|                          |  | Calvin Weng                   |  |  |
|                          |  | Calvin Weng /Project Engineer |  |  |
|                          |  | Eric Fu                       |  |  |
|                          |  | Eric Fu /Reviewer             |  |  |



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## 4 General Information

### 4.1 General Description of EUT

|                             |   |
|-----------------------------|---|
| Power Supply:               | DC3.7V by li-ion battery<br>Recharge input: DC5V/1A by USB port |
| For BT:                     |   |
| Operation Frequency:        | 2402MHz to 2480MHz  |
| Bluetooth Version:          | 4.1   |
| Modulation Type:            | GFSK, $\pi/4$ DQPSK, 8DPSK                                      |
| Number of Channels:         | 79  |
| Channel Spacing:            | 1MHz  |
| Spectrum Spread Technology: | Frequency Hopping Spread Spectrum(FHSS)                         |
| Antenna Type:               | Integral antenna  |
| Antenna Gain:               | 0dBi  |
| For BLE:                    |   |
| Operation Frequency:        | 2402MHz to 2480MHz  |
| Bluetooth Version:          | 4.1   |
| Modulation Type:            | GFSK  |
| Number of Channels:         | 40  |
| Channel Spacing:            | 2MHz  |
| Antenna Type:               | Integral antenna  |
| Antenna Gain:               | 0dBi  |
| For NFC:                    |   |
| Operation Frequency:        | 13.56MHz  |
| Modulation Type:            | ASK   |
| Antenna Type:               | Loop antenna  |
| Antenna Gain:               | 0dBi  |



## 4.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China  
518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

## 4.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

## 4.4 Deviation from Standards

None.

## 4.5 Abnormalities from Standard Conditions

None.

## 4.6 Other Information Requested by the Customer

None.



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## 5 SAR Evaluation

### 5.1 RF Exposure Compliance Requirement

#### 5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

##### 4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

#### 5.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \left[ \frac{1}{f(\text{GHz})} \right] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$f(\text{GHz})$  is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion



### 5.1.3 EUT RF Exposure

#### BT

The Max. power (including tune-up tolerance) is -3.49 dBm on the lowest channel 2.441 GHz (\*)

-3.49 dBm logarithmic terms convert to numeric result is nearly 0.45 mW

According to the formula. calculate the test exclusion thresholds:

$$\text{General RF Exposure} = \frac{(\text{Max. Power of channel, including tune-up tolerance, mW}) * \sqrt{f \text{ (GHz)}}}{(\text{min. test separation distance, mm})}$$

$$\text{General RF Exposure} = (0.45 \text{ mW} / 5 \text{ mm}) * \sqrt{2.441 \text{ GHz}} = 0.14 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

$$(1) < (2)$$

So the SAR report is not required.

(\*) Max. power refer to Report No.:SZEM200400244002

#### BLE

The Max. power (including tune-up tolerance) is -3.27 dBm on the middle channel 2.44 GHz (\*)

-3.27 dBm logarithmic terms convert to numeric result is nearly 0.47 mW

According to the formula. calculate the test exclusion thresholds:

$$\text{General RF Exposure} = \frac{(\text{Max. Power of channel, including tune-up tolerance, mW}) * \sqrt{f \text{ (GHz)}}}{(\text{min. test separation distance, mm})}$$

$$\text{General RF Exposure} = (0.47 \text{ mW} / 5 \text{ mm}) * \sqrt{2.44 \text{ GHz}} = 0.15 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

$$(1) < (2)$$

So the SAR report is not required.

(\*) Max. power refer to Report No.:SZEM200400244003

Note: this device does not support simultaneously transmission for BT and NFC.

- End of the Report -

