



SAR Exemption Evaluation

Applicant Dspread Technology (Beijing) Inc
FCC ID 2AGQ6-CR100-UC
Product Card Reader
Brand DSPREAD
Model CR100
Report No. EFTA25030001-IE-08-S1V2
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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	April 30, 2025
Rev.1	Updated information.	May 12, 2025
Rev.2	Updated description.	May 20, 2025
Note: This revised report (Report No.: EFTA25030001-IE-08-S1V2) supersedes and replaces the previously issued report (Report No.: EFTA25030001-IE-08-S1V1). Please discard or destroy the previously issued report and dispose of it accordingly.		

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

1.3 Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
Address: Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
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1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25°C
Relative humidity	Min. = 20%, Max. = 80%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

2 Description of Equipment Under Test

Client Information

Applicant	Dspread Technology (Beijing) Inc
Applicant address	407Suite, B12C Building UBP, NO.10 Jiuxianqiao Road, Chaoyang District Beijing, China
Manufacturer	Dspread Technology (Beijing) Inc
Manufacturer address	407Suite, B12C Building UBP, NO.10 Jiuxianqiao Road, Chaoyang District Beijing, China

General Technologies

Application Purpose	Original Grant
EUT Stage	Identical Prototype
Model	CR100
Lab internal SN	EFTA25030001-IE-07/S01
Hardware Version	1.1.1.001
Software Version	1.02.0001
Antenna Type	Internal Antenna
Date of Testing	March 25, 2025 ~April 8, 2025
Date of Sample Received	March 3, 2025

Note: The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.

Wireless Technology and Frequency Range

Wireless Technology	Modulation	Operating Mode	Tx (MHz)
BLE	2.4G	Version 4.2 + LE	2402 ~2480
NFC	13.56MHz		

3 Test Specification, Methods and Procedures

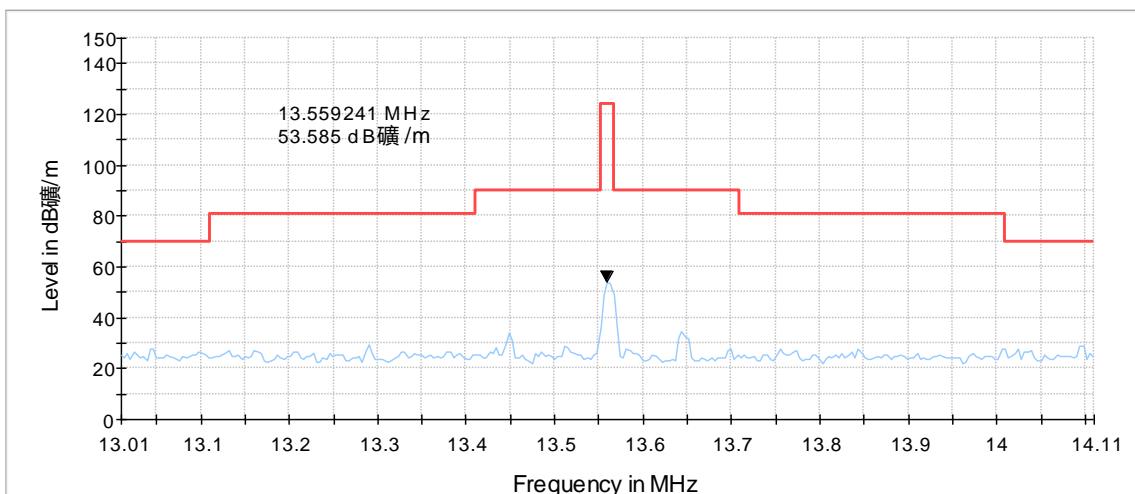
Reference Standards

KDB 447498 D01 General RF Exposure Guidance v06

4 Output Power

BLE	Conducted Power(dBm)			Tune-up Limit (dBm)	
	Channel/Frequency(MHz)				
	Ch 0/2402 MHz	Ch 19/2440 MHz	Ch 39/2480 MHz		
GFSK	-0.70	-0.89	-1.60	30	

A symbol (dB礦/m) in the test plot below means (dB μ V/m)



Note: Test data comes from RF report and please refer to the RF report for testing related information.

Carrier Frequency (MHz)	Max.E-field strength (dB μ V/m)
13.558	53.585

$$\text{EIRP[dBm]} = \text{E[dB}\mu\text{V/m]} - 95.2 = -41.615\text{dBm}$$

Gain= 0 dBi

So

Maximum Output Power= EIRP - Gain = -41.615 dBm

5 Standalone SAR Test Exclusion Considerations

Per KDB 447498 D01, 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:

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

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Per KDB 447498 D01, when the minimum test separation distance is $<$ 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Band	Configuration	Frequency (MHz)	Distance (mm)	MAX Power (dBm)	Ratio	SAR test exclusion thresholds	Evaluation
Bluetooth	Body-worn	2480	5	-0.70	0.268	3	No
	Extremity SAR	2480	5	-0.70	0.268	7.5	No

Standalone SAR Test Exclusion Considerations

Per KDB 447498 D01 (4.3.1):

a) For 100 MHz to 6 GHz and *test separation distances* \leq 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR,³⁰ where $f(\text{GHz})$ is the RF channel transmit frequency in GHz

b) For 100 MHz to 6 GHz and *test separation distances* $>$ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):

1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a}]\} + [(\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)]\}$ mW, for 100 MHz to 1500 MHz

2) $\{[\text{Power allowed at numeric threshold for 50 mm in step a}]\} + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$ mW, for $> 1500 \text{ MHz}$ and $\leq 6 \text{ GHz}$

c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion:

1) For *test separation distances* $>$ 50 mm and $<$ 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by $[1 + \log(100/f(\text{MHz}))]$

2) For *test separation distances* \leq 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$

SAR Test Exclusion Thresholds for 13.56 MHz and $<$ 50 mm is 442.97 mW.

Carrier Frequency (MHz)	Max output power (dBm)	Max output power (mW)	P _{max} (mW)	Region	Low-power exclusion
13.56	-41.615	0.000069	442.97	body	Yes

Note: Based on SAR test exclusion, all values meet the SAR test exclusion thresholds and are exempt from routine RF exposure evaluation.

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

*****END OF REPORT *****