

RF Exposure Report

Report No.: SA180620D13

FCC ID: 2AQMD-CALLIOPE-V13

Test Model: Calliope Mini

Received Date: Jun. 20, 2018

Test Date: Jul. 20 ~ 23, 2018

Issued Date: Jul. 30, 2018

Applicant: Calliope gGmbH

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

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Release Control Record

Issue No.	Description	Date Issued
SA180620D13	Original release.	Jul. 30, 2018

1 Certificate of Conformity

Product: Calliope Mini

Brand: Calliope gGmbH

Test Model: Calliope Mini

Sample Status: Engineering sample

Applicant: Calliope gGmbH

Test Date: Jul. 20 ~ 23, 2018

Standards: FCC Part 2 (Section 2.1093)

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 : Jessica Cheng , **Date:** Jul. 30, 2018

Jessica Cheng / Senior Specialist

Approved by : Rex Lai , **Date:** Jul. 30, 2018

Rex Lai / Associate Technical Manager

2 Evaluation Result

Following FCC KDB 447498 D01 "General SAR test exclusion guidance"

The corresponding SAR Exclusion Threshold condition, listed below:

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

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

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz.
- Power and distance are rounded to the nearest mW and mm before calculation.
- The result is rounded to one decimal place for comparison. The test exclusions are applicable only when the minimum test separation distance is ≤ 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.

2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following:

- a) $[\text{Threshold at } 50 \text{ mm in step 1}) + (\text{test separation distance} - 50\text{mm}) \cdot (f(\text{MHz})/150)] \text{ mW}$, at 100MHz to 1500 MHz
- b) $[\text{Threshold at } 50 \text{ mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot 10] \text{ mW}$ at $> 1500 \text{ MHz}$ and $\leq 6 \text{ GHz}$

3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.

- a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by $[1 + \log(100/f(\text{MHz}))]$ for test separation distances > 50 mm and < 200 mm.
- b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$ for test separation distances ≤ 50 mm.
- c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

3 SAR Test Exclusion Thresholds

Maximum measured transmitter power:

Function	Max. Power (mW)	Min. test separation distance (mm)	SAR test exclusion calculation value ^(NOTE 2)	1-g SAR test exclusion thresholds	Result
BT LE	0.7396	5	0.229	3	Pass

NOTE: 1. The antenna type is Inverted F antenna with 3.3dBi gain.
2. Calculate SAR test exclusion thresholds from condition “1” formulas.

4 Conclusion

Since Source-base time average power is below SAR test exclusion power thresholds, the SAR evaluation is not required.

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