

Test Report

of

FCC RF Exposure

Product : BT module
Brand: Fanstel
Model Name: BM832; BM832A; BM832E
Model Difference: Please see page 3 model summaries table
FCC ID: X8WBM832
FCC Rule Part: §15.247, Cat: DTS
Applicant: Fanstel Corporation, Taipei
Address: 10F-10, No. 79, Sec. 1, Hsin Tai Wu Rd., Hsi-Chih, New Taipei City 221 Taiwan

Test Performed by:
International Standards Laboratory Corp.

<LT Lab.>

*Site Registration No.

BSMI: SL2-IN-E-0013; MRA TW0997; TAF: 0997; IC: IC4067B-4;

*Address:

No. 120, Lane 180, Hsin Ho Rd.,
Lung-Tan Dist., Tao Yuan City 325, Taiwan

*Tel : 886-3-407-1718; Fax: 886-3-407-1738

Report No.: ISL-18LR304FMPE-R2

Issue Date : 2020/11/06



Test results given in this report apply only to the specific sample(s) tested and are traceable to national or international standard through calibration of the equipment and evaluating measurement uncertainty herein.

The uncertainty of the measurement does not include in consideration of the test result unless the customer required the determination of uncertainty via the agreement, regulation or standard document specification.

This test report shall not be reproduced except in full, without the written approval of International Standards Laboratory Corp.

VERIFICATION OF CONFORMITY

Applicant: Fanstel Corporation, Taipei
Product Description: BT module
Brand: Fanstel
Model Name: BM832; BM832A; BM832E
Model Difference: Please see page 3 model summaries table
FCC ID: X8WBM832
Date of test: 2018/10/02 ~ 2018/11/27
Date of EUT Received: 2018/10/02

We hereby certify that:

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory Corp.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

Test By:		Date:	2020/11/06
	Barry Lee / Senior Engineer		
Prepared By:		Date:	2020/11/06
	Elisa Chen / Senior Engineer		
Approved By:		Date:	2020/11/06
	Jerry Liu / Associate Director		

Model Summaries

module	BM832	BM832A	BM832E
Flash/RAM	512KB/64KB	192KB/24KB	512KB/64KB
Size	10.2x15x1.9mm	10.2x15x1.9mm	10.2x15x1.9mm
GPIO	32	32	32
Antenna	PCB Trace	PCB Trace	u.FL
BT range, antenna at LMPI	340 meters	340 meters	
BT range, antenna at 1.52 M	270 meters	270 meters	

Radio Frequency Exposure Evaluation

Standard Applicable

FCC SAR test exclusion

According to KDB 447498 Section: 4.3.1. Standalone SAR test exclusion considerations

a) 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:

$$\left[\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \right] \cdot [\sqrt{f(\text{GHz})}]$$

≤ 3.0 for 1-g SAR, and ≤ 7.5 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 values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

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 according to 4.1 f) is applied to determine SAR test exclusion.

SAR Exclusion Calculation Table

Model: BM832 & BM832A

Frequency (MHz)	Max power (dBm)	Antenna Gain(dBi)	EIRP Power (dBm)	tune-up tolerance (dB)	Max power (mW)	Min Distance (mm)	Result	Limit (3.0 @ 1g SAR)
2480	4.05	0.24	4.29	1	3.380648	5.00	1.065	3.0

Model: BM832E

Frequency (MHz)	Max power (dBm)	Antenna Gain(dBi)	EIRP Power (dBm)	tune-up tolerance (dB)	Max power (mW)	Min Distance (mm)	Result	Limit (3.0 @ 1g SAR)
2480	4.05	0.54	4.59	1	3.622430	5.00	1.141	3.0

~ End of Report ~