Shenzhen Viatom Technology Co., Ltd.

Application
For
Certification
FCC ID: 2ADXK-6600

Health Monitor

Model: Checkme Pro
Additional Model: Checkme Plus, Checkme Pod

Brand name: Viatom

Class B Personal Computer Peripherals

Report No.: 141230013SZN-003

Prepared and Checked by:

Sign on file

Jenner Liu
Assistant Engineer

Approved by:

Digitally signed by Andy Yan
Location: Intertek Testing Services

Andy Yan
Senior Project Engineer
Date: February 10, 2015

TRF No.: FCC 15C_PC_b

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LIST OF EXHIBITS

MEASUREMENT / TECHNICAL REPORT

Shenzhen Viatom Technology Co., Ltd.
MODEL: Checkme Pro
Additional Model: Checkme Plus, Checkme Pod

Brand name: Viatom

FCC ID: 2ADXK-6600

This report concerns (check one:) Original Grant ___X___ Class II Change _____

Equipment Type: JBP-Class B Computing Device Peripheral

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No ___X___

If yes, defer until: _____
date

Company Name agrees to notify the Commission by: _____
date
of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes _____ No ___X___

If no, assumed Part 15, Subpart B for unintentional radiator – the new 47 CFR [10-01-13 Edition] provision.

Report prepared by:

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Exhibit Type	File Description	Filename
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated photos	radiated photos.pdf
Test Setup Photo	Conducted photos	conducted photos.pdf
External Photo	External Photos	external photos.pdf
Internal Photo	Internal Photos	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
ID Label / Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Confidential Letter	request.pdf
Cover Letter	Letter of Agency	agency.pdf

EXHIBIT 1

GENERAL DESCRIPTION

1.0 General Description

1.1 Product Description

The Equipment Under Test (EUT) is a Health Monitor. The EUT was powered by the fully-charged DC 3.7V, 2.07Wh new rechargeable battery which was charged by USB port (DC 5V). The personal computers can through this Health Monitor to read and write datas. For more detail information pls. refer to the user manual.

The Model: Checkme Plus is the same as the Model: Checkme Pro in hardware aspect (circuitry and electrical, mechanical and physical construction), the only differences are the appearance and model no. for trading purpose.

The Model: Checkme Pod is the same as the Model: Checkme Pro in major hardware aspect except minor changes of Checkme Pod changes the interface from HDMI D Type to Micro USB. And other differences are the appearance and model no. for trading purpose.

1.2 Related Submittal(s) Grants

This is an application for certification of a computer peripheral for the Health Monitor.

Remaining portions are subject to the following procedures:
1. Bluetooth FHSS mode: 141230013SZN-001.
2. Bluetooth LE mode: 141230013SZN-002.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2009). Radiated emission measurement was performed in Semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application.

1.4 Test Facility

The Semi-anechoic chamber and shielding room used to collect the radiated data and conducted data are **Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch** and located at 6F, D Block, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: 242492).

EXHIBIT 2

SYSTEM TEST CONFIGURATION

2.0 System Test Configuration

2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2009).

The device was powered by AC 120V/60Hz during the test. And all the models described in clause 1.1 were tested and only the worst data were reported.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. The step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

The rear of unit shall be flushed with the rear of the table.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was placed on turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

The frequency range from 30MHz to 2GHz was searched for spurious emissions from the device. Only those emissions reported were detected. All other emissions were at least 20 dB below the applicable limits.

2.2 EUT Exercising Software

N/A

2.3 Special Accessories

One Shielded USB to HDMI D Type Cable and One Shielded USB to Micro USB Cable are attached.

2.4 Equipment Modification

Any modifications installed previous to testing by Shenzhen Viatom Technology Co., Ltd. will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch.

2.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

2.6 Support Equipment List and Description

This product was tested in the following configuration:

Refer List:

Description	Manufacturer	Model No.
Laptop	Lenovo	T420
Hard Disk	Smart.drive	HD-003
1394 Cable	Smart.drive	Unshielded, Length 180cm
USB Cable	Smart.drive	Unshielded, Length 155cm
USB to HDMI D Type Cable (Provided by Applicant, used for model: Checkme Pro and Checkme Plus)	Viatom	Shielded, Length 82cm (540-00194-00)
USB to Micro USB Cable (Provided by Applicant, used for model: Checkme Pod)	Viatom	Shielded, Length 82cm (540-00240-00)

EXHIBIT 3

EMISSION RESULTS

3.0 **Emission Results**

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF – AG

where FS = Field Strength in dBμV/m
RA = Receiver Amplitude (including preamplifier) in dBμV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB/m
AG = Amplifier Gain in dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF – AG

3.1 Field Strength Calculation (cont'd)

Example

Assume a receiver reading of 62.0dBμV is obtained. The antenna factor of 7.4dB/m and cable factor of 1.6dB is added. The amplifier gain of 29dB is subtracted. The net field strength for comparison to the appropriate emission limit is 32dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 62.0dBμV
AF = 7.4dB/m
CF = 1.6dB
AG = 29.0dB

FS = 62 + 7.4 + 1.6 – 29 = 42dBμV/m

Level in μV/m = Common Antilogarithm [(42dBμV/m)/20] = 125.9μV/m

3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
At
83.350MHz (Data transfer Mode)

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos.pdf.

3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 9.7dB margin (Data transfer Mode)

TEST PERSONNEL:

Sign on file

Jenner Liu Assistant Engineer
Typed/Printed Name

February 10, 2015
Date

Company: Shenzhen Viatom Technology Co., Ltd.
Date of Test: February 10, 2015
Worst Model: Checkme Pro
Operating Mode: Data transfer

Table 1

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	30.970	24.4	20.0	17.0	21.4	40.0	-18.6
Horizontal	83.350	41.4	20.0	8.9	30.3	40.0	-9.7
Horizontal	947.135	25.2	20.0	28.1	33.3	46.0	-12.7
Horizontal	1731.000	29.9	20.0	29.9	39.8	54.0	-14.2
Vertical	41.155	34.5	20.0	11.2	25.7	40.0	-14.3
Vertical	84.320	36.4	20.0	9.0	25.4	40.0	-14.6
Vertical	953.440	25.1	20.0	28.1	33.2	46.0	-12.8
Vertical	1330.000	28.1	20.0	26.9	35.0	54.0	-19.0

NOTES:

1. Quasi-Peak detector is used for frequency up to 1GHz and Peak detector is used for frequency from 1-2GHz.

2. All measurements were made at 3 meters.

3. Negative value in the margin column shows emission below limit.

4. All emissions up to 1GHz are below the QP limit and all emissions between 1-2GHz are below the AV limit.

Test Engineer: Jenner Liu

3.4 Conducted Emission at Mains Terminal

3.5 Conducted Emission Configuration Photograph

Worst Case Conducted Configuration
at
0.406 MHz(Data transfer Mode)

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

3.6 Conducted Emission Data

Judgement: Passed by 12.8 dB margin(Data transfer Mode)

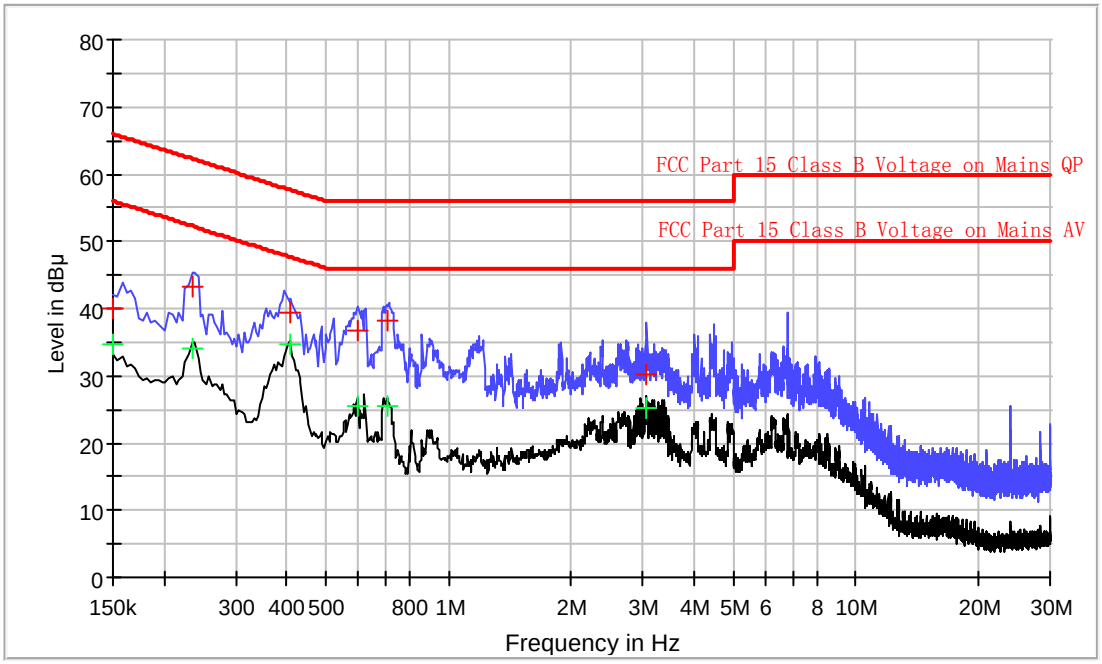
TEST PERSONNEL:

Sign on file

Jenner Liu Assistant Engineer
Typed/Printed Name

February 10, 2015
Date

Company: Shenzhen Viatom Technology Co., Ltd.
Date of Test: February 10, 2015
Worst Model: Checkme Pro
Operating Mode: Data transfer
Phase: Live
Conducted Emission Test - FCC



Result Table QP

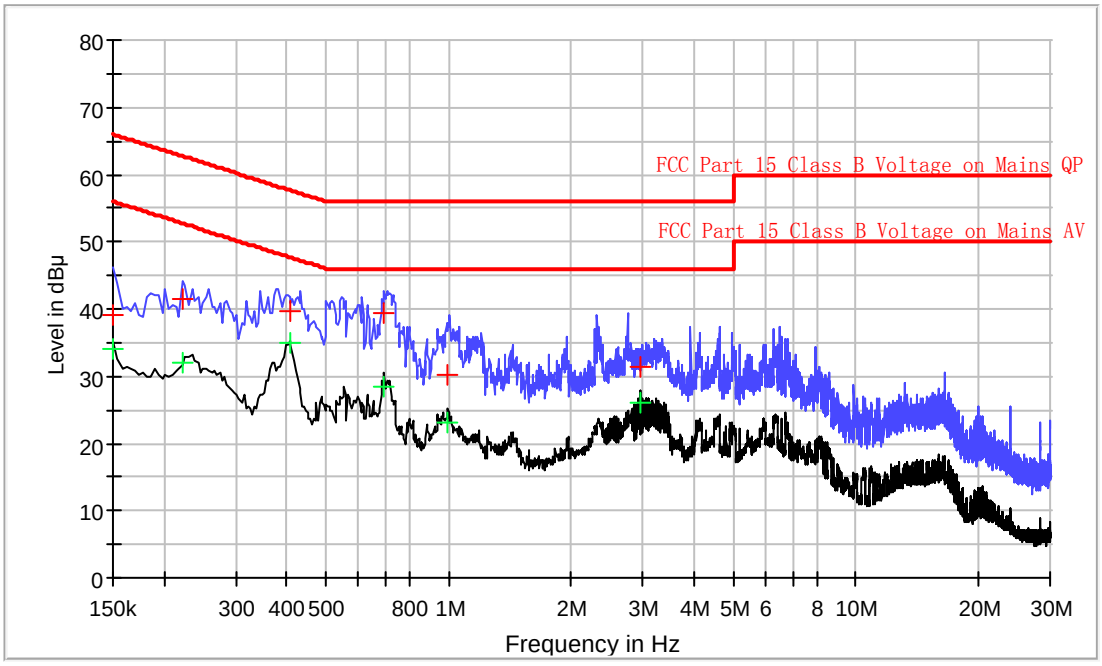
Frequency (MHz)	QuasiPeak (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.150	40.1	L1	9.8	25.9	66.0
0.234	43.2	L1	9.8	19.1	62.3
0.406	39.3	L1	9.8	18.4	57.7
0.598	36.7	L1	9.9	19.3	56.0
0.706	38.2	L1	10.0	17.8	56.0
3.046	30.1	L1	9.9	25.9	56.0

Result Table AV

Frequency (MHz)	Average (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.150	34.8	L1	9.8	21.2	56.0
0.234	34.1	L1	9.8	18.2	52.3
0.406	34.7	L1	9.8	13.0	47.7
0.598	25.5	L1	9.9	20.5	46.0
0.706	25.6	L1	10.0	20.4	46.0
3.046	25.3	L1	9.9	20.7	46.0

Test Engineer: Jenner Liu

Company: Shenzhen Viatom Technology Co., Ltd.
Date of Test: February 10, 2015
Worst Model: Checkme Pro
Operating Mode: Data transfer
Phase: Neutral
Conducted Emission Test - FCC



Result Table QP

Frequency (MHz)	QuasiPeak (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.150	39.1	N	10.0	26.9	66.0
0.222	41.4	N	10.1	21.3	62.7
0.406	39.7	N	10.1	18.0	57.7
0.694	39.5	N	10.2	16.5	56.0
0.998	30.2	N	10.2	25.8	56.0
2.954	31.3	N	10.3	24.7	56.0

Result Table AV

Frequency (MHz)	Average (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.150	34.1	N	10.0	21.9	56.0
0.222	32.0	N	10.1	20.7	52.7
0.406	34.9	N	10.1	12.8	47.7
0.694	28.4	N	10.2	17.6	46.0
0.998	23.0	N	10.2	23.0	46.0
2.954	26.1	N	10.3	19.9	46.0

Test Engineer: Jenner Liu

EXHIBIT 4

EQUIPMENT PHOTOGRAPHS

4.0 Equipment Photographs

For electronic filing, photographs of the tested EUT are saved with filename: external photos.pdf and internal photos.pdf.

EXHIBIT 5

PRODUCT LABELLING

5.0 **Product Labelling**

For electronics filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

EXHIBIT 6

TECHNICAL SPECIFICATIONS

6.0 Technical Specifications

For electronic filing, the block diagram of the tested EUT is saved with filename: block.pdf.

EXHIBIT 7

INSTRUCTION MANUAL

7.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold / leased in the United States.

EXHIBIT 8

MISCELLANEOUS INFORMATION

8.0 **Miscellaneous Information**

This miscellaneous information includes emission measuring procedure.

8.1 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of computer peripheral operating under Part 15, Subpart B rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 – 2009.

The computer peripheral equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The antenna height and polarization are varied during the testing to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions are in QP mode from the frequency band 30MHz to 1GHz with RBW setting 120kHz and in PK & AV mode from frequency band 1GHz to 2GHz with RBW setting 1MHz. Detector function for conducted emissions are in QP & AV mode and IFBW setting is 9kHz from the frequency band 150kHz to 30MHz.

For radiated emission, the frequency range scanned is 30MHz to 2GHz. For line-conducted emissions, the range scanned is 150kHz to 30MHz.

8.1 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

Conducted measurements are made as described in ANSI C63.4 – 2009.

EXHIBIT 9

TEST EQUIPMENT LIST

9.0 **Test Equipment List**

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ061-03	Biconilog Antenna	ETS	3142C	00066460	28-Jun-2014	28-Jun-2015
SZ061-08	Horn Antenna	ETS	3115	00092346	19-Oct-2014	19-Oct-2015
EM031-03	EXA Spectrum Analyzer	R&S	FSV40	101506	09-Jun-2014	09-Jun-2015
SZ185-01	EMI Receiver	R & S	ESCI	100547	10-Mar-2014	10-Mar-2015
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	19-Apr-2014	19-Apr-2015
SZ062-02	RF Cable	RADIALL	RG 213U	--	04-Jan-2015	04-Jul-2015
SZ062-05	RF Cable	RADIALL	0.04-26.5GHz	--	09-Oct-2014	09-Apr-2015
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	--	09-Oct-2014	09-Apr-2015
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	01-Nov-2014	01-Nov-2015
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	01-Nov-2014	01-Nov-2015
SZ187-02	Two-Line V-Network	R&S	ENV216	100073	16-Jun-2014	16-Jun-2015
SZ188-03	Shielding Room	ETS	RFD-100	4100	23-Aug-2014	23-Aug-2015