

FCC TEST REPORT

for

VIEVU,LLC

WEARABLE VIDEO CAMERA

Model Number: VIEVU<sup>2</sup>

FCC ID: 2ABBN4A4257

Prepared for : VIEVU,LLC  
Address : 105 W. John St, Seattle WA 98119, USA

Prepared by : Keyway Testing Technology Co., Ltd.  
Address : Baishun Industrial Zone, Zhangmutou Town,  
Dongguan, Guangdong, China

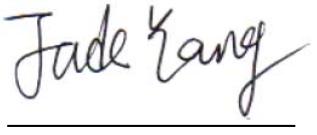
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Report No. : 14KWE051441F  
Date of Test : May 13~ 14, 2014  
Date of Report : May 15, 2014

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# Keyway Testing Technology Co., Ltd.

<b>Applicant:</b>	VIEVU,LLC 105 W. John St, Seattle WA 98119, USA		
<b>Manufacturer:</b>	VIEVU,LLC 105 W. John St, Seattle WA 98119, USA		
<b>E.U.T:</b>	WEARABLE VIDEO CAMERA		
<b>Model Number:</b>	VIEVU <sup>2</sup>		
<b>Trade Name:</b>	VIEVU	<b>Serial No.:</b>	-----
<b>Date of Receipt:</b>	May 13, 2014	<b>Date of Test:</b>	May 13~ 14, 2014
<b>Test Specification:</b>	FCC Part 15, Subpart B: Oct. 1, 2013 ANSI C63.4:2009		
<b>Test Result:</b>	The equipment under test was found to be compliance with the requirements of the standards applied.		
<b>Issue Date: May 15, 2014</b>			
Tested by:	Reviewed by:	Approved by:	
			
Andy Gao / Engineer	Jade Yang / Supervisor	Chris Du / Manager	
<b>Other Aspects:</b>	None.		
Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested			
<i>This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Keyway Testing Technology Co., Ltd.</i>			

## 1. TEST SUMMARY

Test Items	Test Requirement	Uncertainty	Result
Conducted Emissions	15.107 ANSI C63.4	±2.6dB	PASS
Radiated Emissions	15.109 15.249 ANSI C63.4	±3.6dB	PASS

## 2. GENERAL PRODUCT INFORMATION

### 2.1. Product Function

Refer to Technical Construction Form and User Manual.

### 2.2. Description of Device (EUT)

Product Name:	WEARABLE VIDEO CAMERA
Model No.:	VIEVU <sup>2</sup>
Power supply:	DC 5V from PC
Max clock:	27MHz
USB Cable:	Unshielded, Detachable 0.5m

### 2.3. Difference between Model Numbers

None.

### 2.4. Independent Operation Modes

The basic operation modes are:

#### 2.4.1. Data transmitting

### 2.5. Test Supporting System

#### 2.5.1. TF card

Manufacturer: HC  
M/N: 11089060470CV

#### 2.5.2. PC

Manufacturer: Lenovo  
M/N: Lenovo G475  
FCC Approver: FCC DOC

#### 2.5.3. Printer

Manufacturer: Canon  
M/N: LBP2900  
FCC Approver: FCC DOC

#### 2.5.4. Modem

Manufacturer: keyway  
M/N: KW002  
FCC Approver: FCC DOC

### 3. TEST SITES

#### 3.1. Test Facilities

Lab Qualifications : 944 Shielded Room built by ETS-Lindgren, USA  
Date of completion: March 28, 2011

966 Chamber built by ETS-Lindgren, USA  
Date of completion: March 28, 2011

Certified by TUV Rheinland, Germany.  
Registration No.: UA 50207153  
Date of registration: July 13, 2011

Certified by UL, USA  
Registration No.: 100567237  
Date of registration: September 5, 2012

Certified by Intertek  
Registration No.: 2011-RTL-L1-31  
Date of registration: October 11, 2011

Certified by Industry Canada  
Registration No.: 9868A  
Date of registration: December 8, 2011

Certified by FCC, USA  
Registration No.: 370994  
Date of registration: February 21, 2012

Certified by CNAS China  
Registration No.: CNAS L5783  
Date of registration: August 8, 2012

Name of Firm : Keyway Testing Technology Co., Ltd.

Site Location : Baishun Industrial Zone, Zhangmutou Town,  
Dongguan, Guangdong, China

### 3.2. List of Test and Measurement Instruments

#### 3.2.1. For conducted emission at the mains terminals test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCI	101156	Apr. 27,14	Apr. 27,15
Artificial Mains Network	Rohde&Schwarz	ENV216	101315	Apr. 27,14	Apr. 27,15
Artificial Mains Network (AUX)	Rohde&Schwarz	ENV216	101314	Apr. 27,14	Apr. 27,15
RF Cable	FUJIKURA	3D-2W	944 Cable	Apr. 27,14	Apr. 27,15

#### 3.2.2. For radiated emission test (Below 1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCI	101156	Apr. 27,14	Apr. 27,15
Bilog Antenna	ETS-LINDGREEN	3142D	135452	Apr. 27,14	Apr. 27,15
Spectrum Analyzer	Agilent	E4411B	MY4511304	Apr. 27,14	Apr. 27,15
3m Semi-anechoic Chamber	ETS-LINDGREEN	966	KW01	Apr. 27,14	Apr. 27,15
Signal Amplifier	SONOMA	310	187016	Apr. 27,14	Apr. 27,15
Signal Amplifier	Agilent	8449B	3008A00251	Apr. 27,14	Apr. 27,15
RF Cable	IMRO	IMRO-400	966 Cable 1#	N/A	N/A
MULTI-DEVICE Controller	ETS-LINDGREEN	2090	126913	N/A	N/A

## 4. TEST SET-UP AND OPERATION MODES

### 4.1. Principle of Configuration Selection

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

### 4.2. Block Diagram of Test Set-up

Refer to Test Setup in clause 7.

### 4.3. Test Operation Mode and Test Software

Refer to Test Setup in clause 4.

### 4.4. Special Accessories and Auxiliary Equipment

None.

### 4.5. Countermeasures to Achieve EMC Compliance

None.

## 5. EMISSION TEST RESULTS

### 5.1. Conducted Emission at the Mains Terminals Test

<b>Result</b>	<b>: Pass</b>
Test Procedure	: ANSI C63.4:2009
Frequency Range	: 0.15 to 30 MHz
Test Site	: 944 Shielded Room
Limits	: FCC Part 15, Subpart B: Oct. 1, 2013

#### **Test Setup**

M/N	: VIEVU <sup>2</sup>
Input Voltage	: DC 5V from PC input AC 120V/60Hz
Operation Mode	: Data transmitting

The EUT was put on a wooden table which was 0.8 m high above the ground and connected to the AC mains through the Artificial Mains Network (AMN). Where the mains cable supplied by the manufacture was longer than 1 m, the excess was folded back and forth parallel to the cable at the centre so as to form a bundle no longer than 0.4 m.

The EUT was kept 0.4 m from any other earthed conducting surface. Both sides of AC line were checked to find out the maximum conducted emission levels according to the test procedure during the conducted emission test.

The frequency range from 150 kHz to 30 MHz was investigated.

The bandwidth of the test receiver was set at 9 kHz.

The test data of the worst case condition(s) was reported on the following page.

#### **Note**

1. Measurement Uncertainty:  $\pm 2.6$  dB at a level of confidence of 95%.

## Test Data



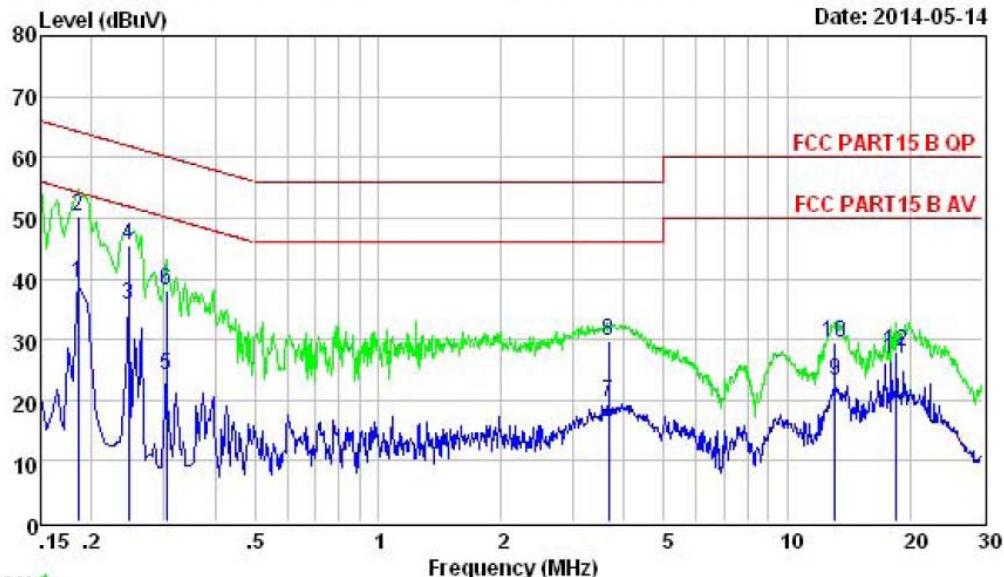
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Data: 2

File: F:\944 Data\conduction\14Report\14KW050703WJ.EM6 (8)

Date: 2014-05-14



Trace: 1

Site : 944 Shielded Room  
 Condition : FCC PART15 B QP LINE  
 EUT : WEARABLE VIDEO CAMERA  
 POWER : DC 5V from PC input AC 120V60Hz  
 M/N : VIEVU2  
 Test Engineer: Alan  
 Comment : Temp:24.9';Humi:55%;Press:101.48kPa  
 Test Mode : Data transmission(USB2.0 R/W)

Freq	Level	Limit		Remark
		Line	Over	
MHz	dBuV	dBuV	dB	
1	0.185	39.25	54.24	-14.99 Average
2	0.185	50.30	64.24	-13.94 QP
3	0.246	35.76	51.91	-16.15 Average
4	0.246	45.40	61.91	-16.51 QP
5	0.305	23.98	50.10	-26.12 Average
6	0.305	38.10	60.10	-22.00 QP
7	3.661	19.77	46.00	-26.23 Average
8	3.661	29.80	56.00	-26.20 QP
9	13.057	23.19	50.00	-26.81 Average
10	13.057	29.30	60.00	-30.70 QP
11	18.524	26.91	50.00	-23.09 Average
12	18.524	28.10	60.00	-31.90 QP



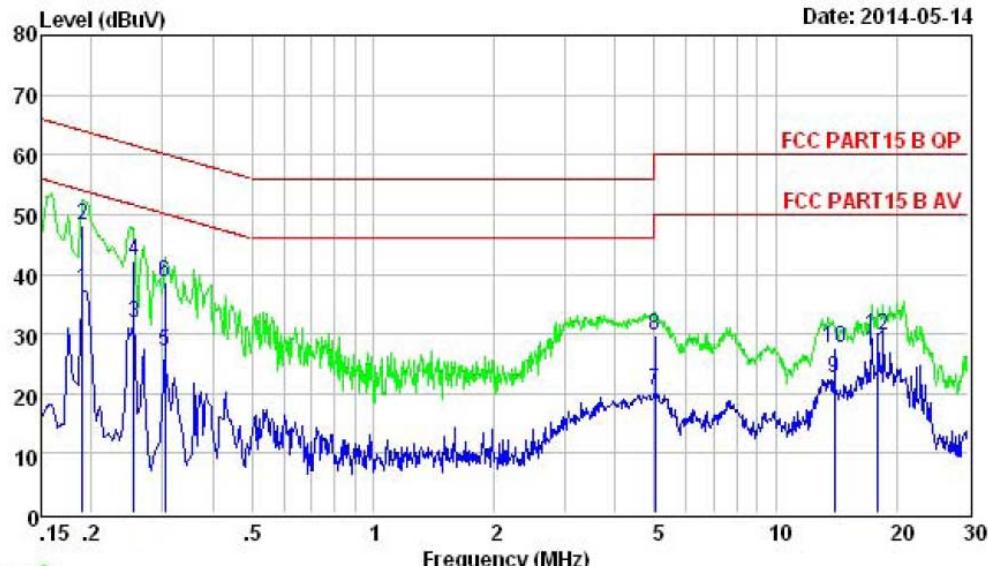
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Data: 4

File: E:\944 Data\conduction\14Report\14KW050703WJ.EM6 (8)

Date: 2014-05-14



Trace: 3

Site : 944 Shielded Room  
 Condition : FCC PART15 B QP NEUTRAL  
 EUT : WEARABLE VIDEO CAMERA  
 POWER : DC 5V from PC input AC 120V60Hz  
 M/N : VIEVU2  
 Test Engineer: Alan  
 Comment : Temp:24.9';Humi:55%;Press:101.48kPa  
 Test Mode : Data transmission(USB2.0 R/W)

Freq	Level	Limit		Remark
		Line	Over	
MHz	dBuV	dBuV	dB	
1	0.190	37.42	54.02	-16.60 Average
2	0.190	48.20	64.02	-15.82 QP
3	0.255	31.74	51.60	-19.86 Average
4	0.255	42.10	61.60	-19.50 QP
5	0.305	27.14	50.10	-22.96 Average
6	0.305	38.80	60.10	-21.30 QP
7	5.005	20.51	50.00	-29.49 Average
8	5.005	29.60	60.00	-30.40 QP
9	13.989	22.64	50.00	-27.36 Average
10	13.989	27.80	60.00	-32.20 QP
11	17.944	27.02	50.00	-22.98 Average
12	17.944	29.70	60.00	-30.30 QP

## 5.2. Radiated Emission Test

<b>Result</b>	<b>: Pass</b>
Test Procedure	: ANSI C63.4:2009
Frequency Range	: 30 to 1000 MHz
Test Site	: 966 Chamber
Limits	: FCC Part 15, Subpart B: Oct. 1, 2013

### Test Setup

M/N	: VIEVU <sup>2</sup>
Input Voltage	: DC 5V from PC input AC 120V/60Hz
Operation Mode	: Data transmitting

The EUT was placed on a turn table which was 0.8 m above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 m away from the receiving antenna which was mounted on an antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 m to 4 m for both horizontal and vertical polarizations.

The EUT was tested in the Chamber Site. It was pre-scanned with a Peak detector from the spectrum, and all the final readings from the test receiver were measured with the Quasi-Peak detector.

The bandwidth of the EMI test receiver is set at 120kHz for frequency range from 30MHz to 1000 MHz.

#### Notes:

1. Emission Level = Antenna Factor + Cable Loss + Meter Reading-Preamp Factor.
2. Measurement Uncertainty:  $\pm 3.6$  dB at a level of confidence of 95%.

## Test Data



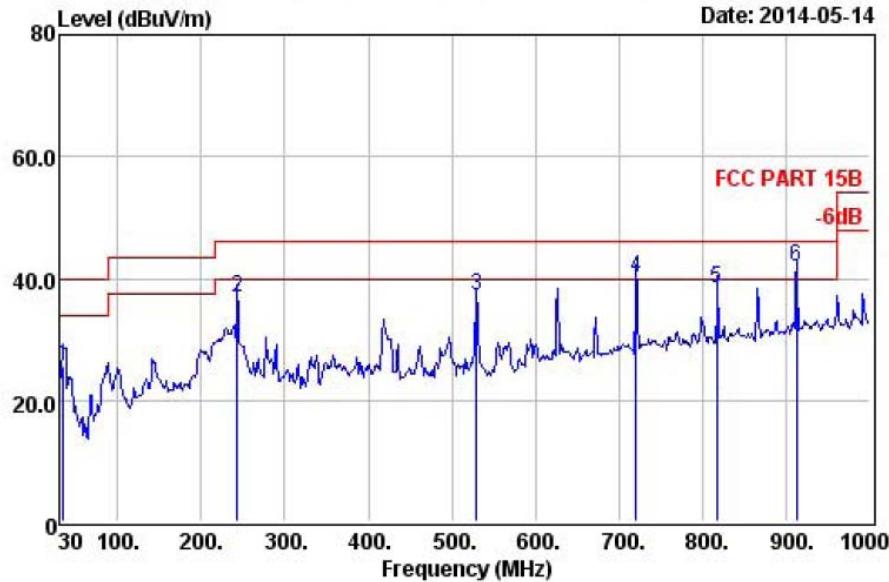
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Data: 3

File: D:\966 data\14Report\14kw050703wj.EM6 (8)

Date: 2014-05-14



Site : 966 Chamber

Condition: FCC PART 15B 3m 3142D VERTICAL

EUT : WEARABLE VIDEO CAMERA

M/N : VIEVU2

Power : DC 5V from PC input AC 120V/60Hz

Test By : Damon

Comment : Temp:24.8°C Humi:56% Press:101.52kPa

Test Mode: Data transmission(USB2.0 R/W)

	Preamp Freq	Read Factor	Cable Level	Antenna Loss Factor	Limit Level	Line dBuV/m	Over Limit	dB	Remark
	MHz	dB	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	34.85	31.38	40.38	0.56	15.94	25.50	40.00	-14.50	QP
2	243.40	30.95	53.54	1.61	12.72	36.92	46.00	-9.08	QP
3	529.55	30.74	45.72	2.94	19.25	37.17	46.00	-8.83	QP
4 !	720.64	30.65	44.43	3.96	22.48	40.22	46.00	-5.78	QP
5	817.64	30.50	41.34	4.39	23.07	38.30	46.00	-7.70	QP
6 !	912.70	29.96	42.59	4.87	24.36	41.86	46.00	-4.14	QP



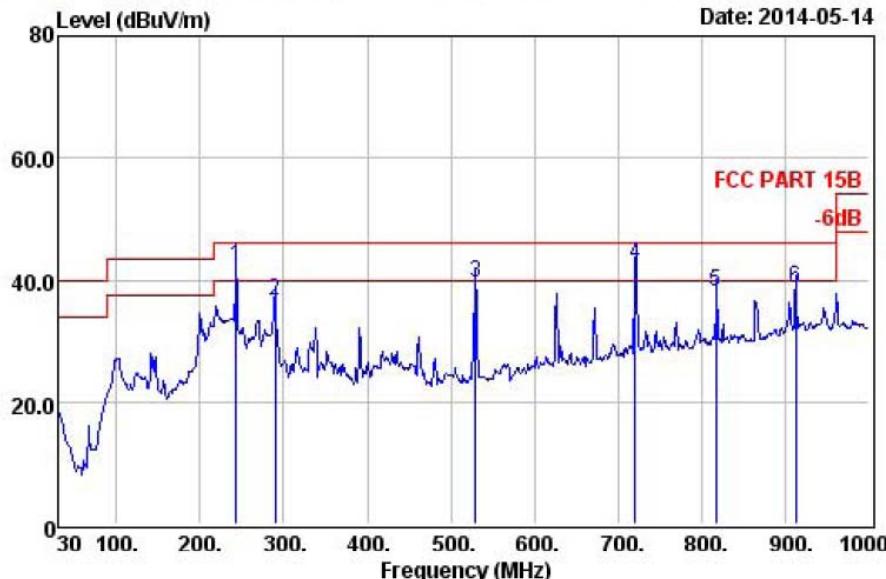
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Data: 4

File: D:\966 data\14Report\14kw050703wj.EM6 (8)

Date: 2014-05-14



Site : 966 Chamber  
Condition: FCC PART 15B 3m 3142D HORIZONTAL  
EUT : WEARABLE VIDEO CAMERA  
M/N : VIEVU2  
Power : DC 5V from PC input AC 120V/60Hz  
Test By : Damon  
Comment : Temp:24.8'C Humi:56% Press:101.52kPa  
Test Mode: Data transmission(USB2.0 R/W)

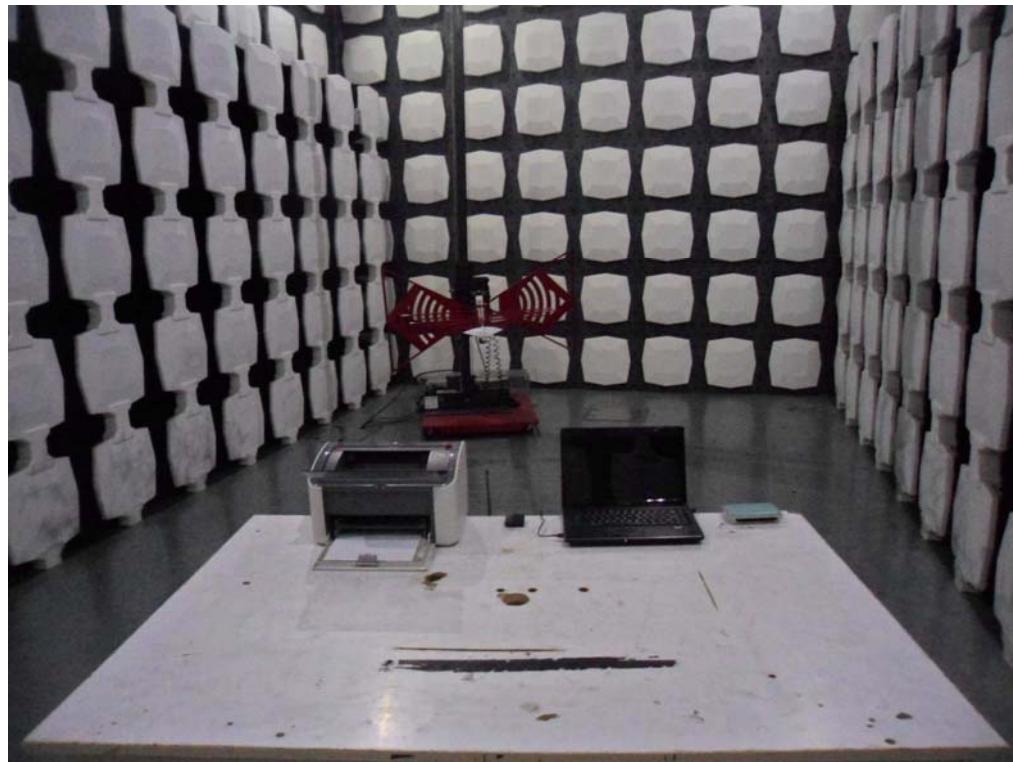
Freq	Preamp Factor	Read Level	Cable Loss	Antenna Factor	Limit		Over Line	Over Limit	Remark
					Level	dB/m			
1 !	243.40	30.95	58.73	1.61	12.72	42.11	46.00	-3.89	QP
2	289.96	30.93	52.03	1.87	13.48	36.45	46.00	-9.55	QP
3	529.55	30.74	48.11	2.94	19.25	39.56	46.00	-6.44	QP
4 !	720.64	30.65	46.60	3.96	22.48	42.39	46.00	-3.61	QP
5	817.64	30.50	41.13	4.39	23.07	38.09	46.00	-7.91	QP
6	912.70	29.96	39.33	4.87	24.36	38.60	46.00	-7.40	QP

## 6. PHOTOGRAPHS OF TEST SET-UP

Conducted Emission



Radiated Emission



## 7. PHOTOGRAPHS OF THE EUT





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