

FCC TEST REPORT

for

VIEVU,LLC

WEARABLE VIDEO CAMERA

Model Number: VIEVU²

FCC ID: 2ABBN4A4257

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

Prepared by : Keyway Testing Technology Co., Ltd.
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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.

Applicant:	VIEVU, LLC		
Address:	105 W. John St, Seattle WA 98119, USA		
Manufacturer:	VIEVU, LLC		
Address:	105 W. John St, Seattle WA 98119, USA		
E.U.T:	WEARABLE VIDEO CAMERA		
Model Number:	VIEVU ²		
Trade Name:	VIEVU	Serial No.:	-----
Date of Receipt:	May 13, 2014	Date of Test:	May 13~ 14, 2014
Test Specification:	FCC Part 15, Subpart B: Oct. 1, 2013 ANSI C63.4:2009		
Test Result:	The equipment under test was found to be compliance with the requirements of the standards applied.		
	Issue Date: May 15, 2014		
Tested by:	Reviewed by:	Approved by:	
			
Andy Gao / Engineer	Jade Yang / Supervisor	Chris Du / Manager	
Other Aspects:	None.		
Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested			
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.			

1. TEST SUMMARY

Test Items	Test Requirement	Uncertainty	Result
Conducted Emissions	15.107 ANSI C63.4	$\pm 2.6\text{dB}$	PASS
Radiated Emissions	15.109 15.249 ANSI C63.4	$\pm 3.6\text{dB}$	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 ²
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

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

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

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

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

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

Certificated 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

Result : **Pass**
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 : VIEVU²
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: ± 2.6 dB at a level of confidence of 95%.

Test Data



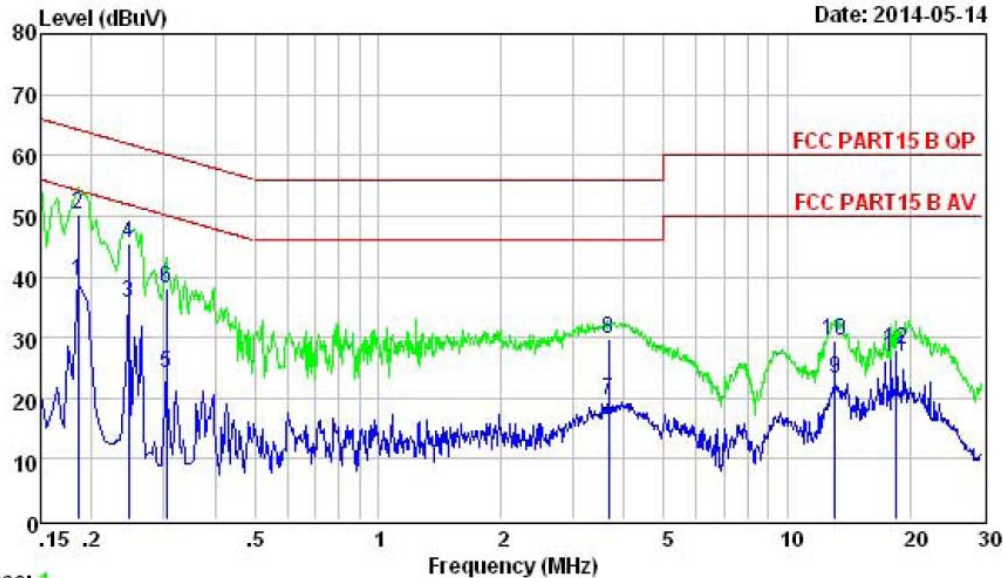
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Data: 2

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)

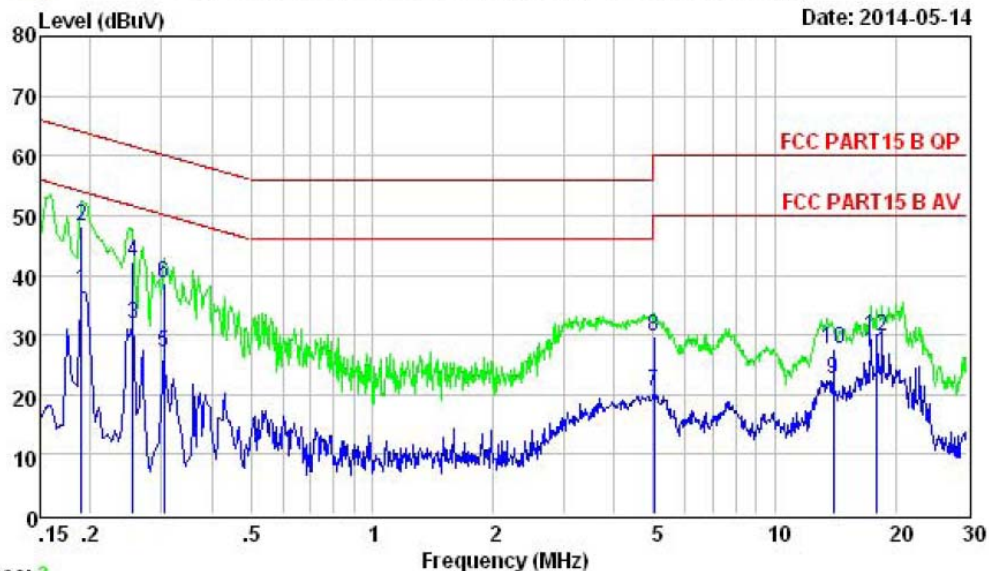
			Limit	Over	
	Freq	Level	Line	Limit	Remark
	MHz	dBuV	dBuV	dB	
1	0.185	39.25	54.24	-14.99	Average
2	0.185	50.30	64.24	-13.94	QP
3	0.246	35.76	51.91	-16.15	Average
4	0.246	45.40	61.91	-16.51	QP
5	0.305	23.98	50.10	-26.12	Average
6	0.305	38.10	60.10	-22.00	QP
7	3.661	19.77	46.00	-26.23	Average
8	3.661	29.80	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: F:\944 Data\conduction\14Report\14KW050703WJ.EM6 (8)



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	Over	
	MHz	dBuV	Line	Limit	Remark
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

Result : **Pass**
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 : VIEVU²
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: ± 3.6 dB at a level of confidence of 95%.

Test Data



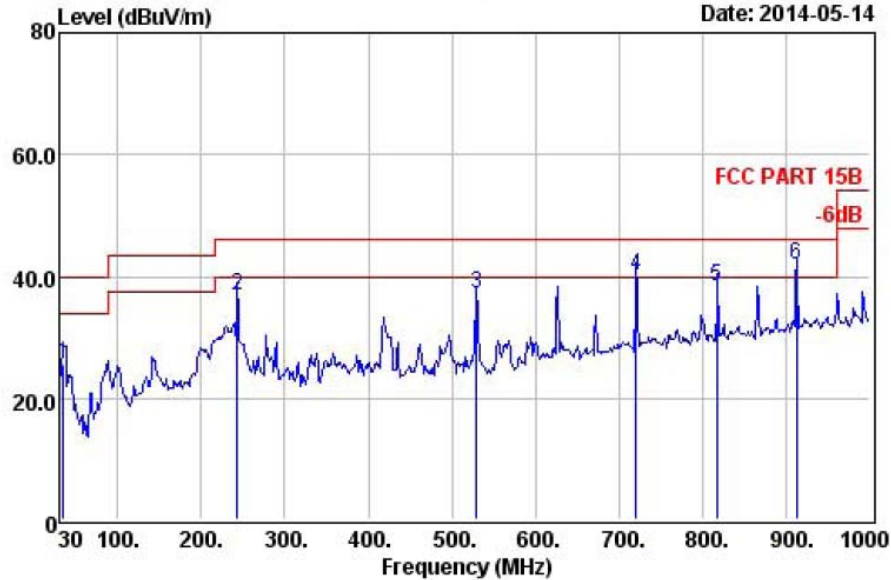
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Data: 3

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)

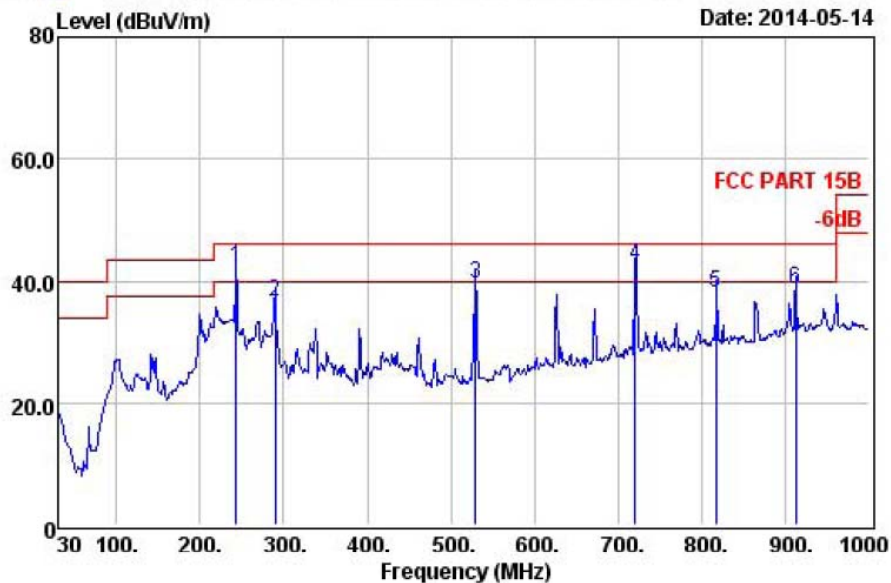
		Preamp	Read	Cable&Antenna		Limit	Over	
	Freq	Factor	Level	Loss	Factor	Level	Line	Limit
	MHz		dBuV	dB	dB/m	dBuV/m	dBuV/m	dB
1	34.85	31.38	40.38	0.56	15.94	25.50	40.00	-14.50 QP
2	243.40	30.95	53.54	1.61	12.72	36.92	46.00	-9.08 QP
3	529.55	30.74	45.72	2.94	19.25	37.17	46.00	-8.83 QP
4 !	720.64	30.65	44.43	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)



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)

		Preamp	Read	Cable	Antenna	Limit	Over	
	Freq	Factor	Level	Loss	Factor	Level	Line	Limit
	MHz		dBuV	dB	dB/m	dBuV/m	dBuV/m	dB
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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