

FCC TEST REPORT

Report Number	:	64.790.15.04104.01	Date of Is	sue:	September 18, 2015
Model	:	DV4000			
Product Type	:	Digital Video Camera			_
Applicant	:	SHUOYING DIGITAL SC	IENCE&TE	CHNOL	OGY(CHINA)Co., Ltd
Address	:	NO.187, 5th Binhai Road,	Wenzhou,		
_		Zhejiang, China			
Production Facility	:	SHUOYING DIGITAL SC	IENCE&TE	CHNOL	OGY(CHINA)Co., Ltd
Address	:	NO.187, 5th Binhai Road,	Wenzhou,		
_		Zhejiang, China			
Test Result	:	■ Positive □ Negati	ive		
Total pages including Appendices	:_	41			

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2 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch

Building 12&13, Zhiheng Wisdomland Business Park,

Nantou Checkpoint Road 2, Nanshan District,

Shenzhen City, 518052,

P. R. China

Telephone: 86 755 8828 6998 Fax: 86 755 8828 5299

Test Site 2

Company name: Dongguan NTC Co., Ltd.

Building D, Gaosheng Science and Technology park, Hongtu road,

Nancheng district, Dongguan city, Guangdong province,

China

Telephone: 86-769-22022444 Fax: 86-769-22022799



3 Description of the Equipment Under Test

Product: Digital Video Camera

Model no.: DV4000

FCC ID: YGB-DV4000

Options and accessories: See below table

Rating: 5VDC, 600mA or 3.7VDC, 400mAh(supplied by built-in chargeable

lithium battery)

Description of the EUT: NIL

Remark: NIL

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
PC host	Dell	Vostro 3902	S/N:108MY02, 1.8m Unshielded power cord, with core
LCD Monitor	Dell	S2240Tb	S/N: CN-DFP53P-74261- 3AL-DCYU T
LCD TV	LENOVO	L2061WD	S/N: 3M04769B1102083
Mouse	HP	MODGUO	S/N: PSA1104008298, 1.5m Shielded data cable
Keyboard	HP	PR1101U	S/N: BAUWT0AHHZX8BC, 1.5m Shielded data cable
Printer	Panasonic	KX-P1150	1.5m Shielded Data cable, 1.5m Unshielded power cord with core
TF Card	Kingston	8GB	N/A
HDMI Cable	SHUOYING	N/A	0.8m Shielded cable with cores
USB Cable	SHUOYING	N/A	0.8m Shielded cable



4 Summary of Test Standards

	Test Standards
FCC Part 15 Subpart B,	PART 15 - RADIO FREQUENCY DEVICES
10-1-2014 Edition	Subpart B - Unintentional Radiators



5 Summary of Test Results

Emission Tests									
FCC Part 15 Subpart B 10-1-2014 Edition									
Test Condition	Pages	7	est Resul	t					
		Pass	Fail	N/A					
Conducted Emission on AC	8	\boxtimes							
150kHz to 30MHz									
Radiated Emission *	16	\boxtimes							
30MHz to 6000MHz									

Remark: "*" the highest frequency of the internal sources of the EUT is 126MHz, and the internal sources of EuT will not operate in charging mode.



6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: YGB-DV4000 complies with Section 15.107, 15.109 of the FCC Part 15, Subpart B Rules.

SUMMARY:

All tests according to the regulations cited on page 5 were

- Performed
- ☐ Not Performed

The Equipment under Test

- **Fulfills** the general approval requirements.
- ☐ **Does not** fulfill the general approval requirements.

Sample Received Date: August 28, 2015

Testing Start Date: September 14, 2015

Testing End Date: September 14, 2015

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch -

Reviewed by:

Phoebe Hu

EMC Project Manager

Prepared by:

Trevor You EMC Project Engineer

Tested by:

Sance. Wang

Sance Wang



7 Technical Requirement

7.1 Conducted Emission Test

Test Method

- 1. The EUT was placed on a table, which is 0.8m above ground plane
- 2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
- 3. Maximum procedure was performed to ensure EUT compliance
- 4. A EMI test receiver is used to test the emissions from both sides of AC line

Limit

According to §15.107, conducted emissions limit as below:

Frequency	QP Limit	AV Limit
MHz	dΒμV	dΒμV
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

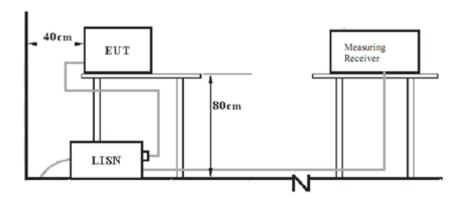


Figure 1. Test setups of Conducted Emission



Conducted Emission

Product Type : Digital Video Camera

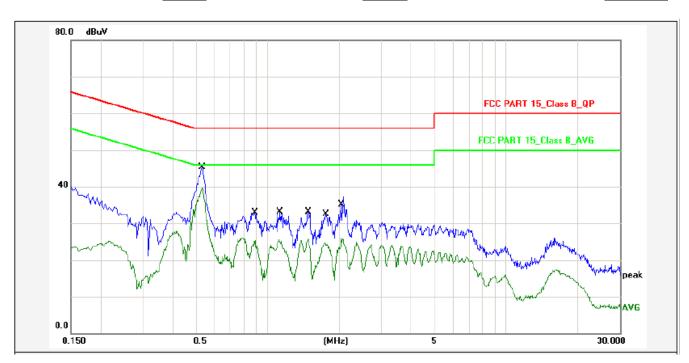
Model No. : DV4000

Test requirement : FCC Part 15 Subpart B

Operating mode : Charging Tested on : Power Line, Live

Comment : DC 5V (Supplied by PC, input AC 120VAC/60Hz)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.5340	10.80	31.40	42.20	56.00	-13.80	QP	Р	
2	0.5340	10.80	25.90	36.70	46.00	-9.30	AVG	Р	
3	0.8860	10.80	19.10	29.90	56.00	-26.10	QP	Р	
4	0.8860	10.80	11.50	22.30	46.00	-23.70	AVG	Р	
5	1.1220	10.80	19.30	30.10	56.00	-25.90	QP	Р	
6	1.1220	10.80	11.60	22.40	46.00	-23.60	AVG	А	
7	1.4860	10.80	19.30	30.10	56.00	-25.90	QP	Р	
8	1.4860	10.80	12.00	22.80	46.00	-23.20	AVG	Р	
9	1.7500	10.80	18.60	29.40	56.00	-26.60	QP	Р	
10	1.7500	10.80	10.80	21.60	46.00	-24.40	AVG	Р	
11	2.0540	10.80	23.50	34.30	56.00	-21.70	QP	Р	
12	2.0540	10.80	12.00	22.80	46.00	-23.20	AVG	Р	



Conducted Emission

Product Type : Digital Video Camera

Model No. : DV4000

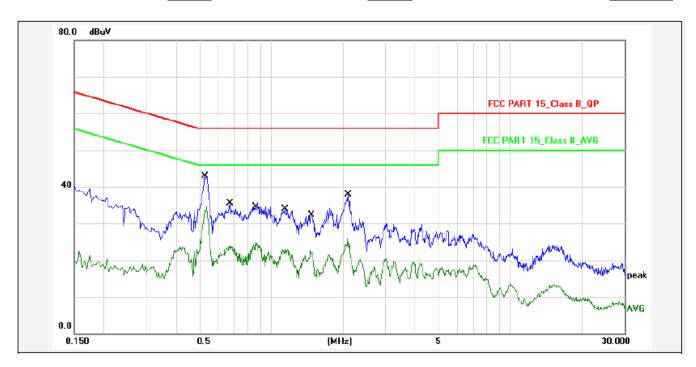
Test requirement : FCC Part 15 Subpart B

Operating mode : Charging

Tested on : Power Line, Neutral

Comment : DC 5V (Supplied by PC, input AC 120VAC/60Hz)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.5299	10.80	29.00	39.80	56.00	-16.20	QP	Р	
2	0.5299	10.80	20.80	31.60	46.00	-14.40	AVG	Р	
3	0.6740	10.80	21.70	32.50	56.00	-23.50	QP	Р	
4	0.6740	10.80	10.30	21.10	46.00	-24.90	AVG	Р	
5	0.8620	10.80	21.60	32.40	56.00	-23.60	QP	Р	
6	0.8620	10.80	11.10	21.90	46.00	-24.10	AVG	Р	
7	1.1420	10.80	20.10	30.90	56.00	-25.10	QP	Р	
8	1.1420	10.80	9.10	19.90	46.00	-26.10	AVG	Р	
9	1.4580	10.80	18.40	29.20	56.00	-26.80	QP	Р	
10	1.4580	10.80	8.80	19.60	46.00	-26.40	AVG	Р	
11	2.0940	10.80	24.00	34.80	56.00	-21.20	QP	Р	
12	2.0940	10.80	12.00	22.80	46.00	-23.20	AVG	Р	



Conducted Emission

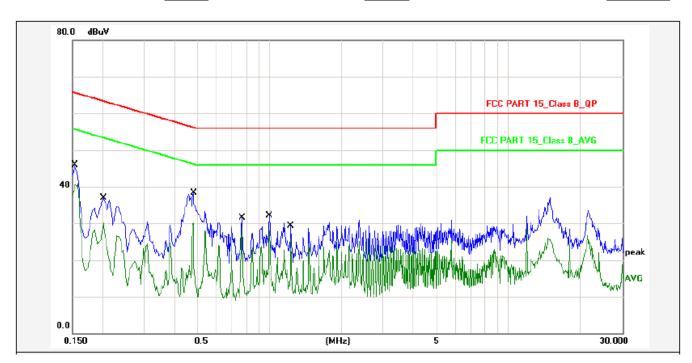
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : PC Camera mode
Tested on : Power Line, Live

Comment : DC 5V (connect to PC, input AC 120VAC/60Hz)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1539	10.80	35.05	45.85	65.78	-19.93	QP	Р	
2	0.1539	10.80	29.92	40.72	55.78	-15.06	AVG	Р	
3	0.2020	10.80	26.09	36.89	63.52	-26.63	QP	Р	
4	0.2020	10.80	19.24	30.04	53.52	-23.48	AVG	Р	
5	0.4820	10.80	27.46	38.26	56.30	-18.04	QP	Р	
6	0.4820	10.80	19.26	30.06	46.30	-16.24	AVG	Р	
7	0.7700	10.80	20.77	31.57	56.00	-24.43	QP	Р	
8	0.7700	10.80	18.01	28.81	46.00	-17.19	AVG	Р	
9	1.0020	10.80	21.22	32.02	56.00	-23.98	QP	Р	
10	1.0020	10.80	17.02	27.82	46.00	-18.18	AVG	Р	
11	1.2338	10.80	18.57	29.37	56.00	-26.63	QP	Р	
12	1.2338	10.80	14.97	25.77	46.00	-20.23	AVG	Р	



Conducted Emission

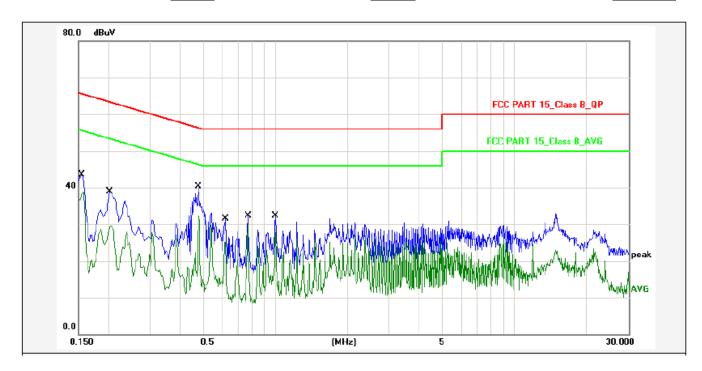
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : PC Camera mode
Tested on : Power Line, Neutral

Comment : DC 5V (connect to PC, input AC 120VAC/60Hz)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1548	10.80	29.60	40.40	65.73	-25.33	QP	Р	
2	0.1548	10.80	25.10	35.90	55.73	-19.83	AVG	Р	
3	0.2020	10.80	25.20	36.00	63.52	-27.52	QP	Р	
4	0.2020	10.80	15.70	26.50	53.52	-27.02	AVG	Р	
5	0.4780	10.80	26.40	37.20	56.37	-19.17	QP	Р	
6	0.4780	10.80	18.40	29.20	46.37	-17.17	AVG	Р	
7	0.6139	10.80	11.20	22.00	46.00	-24.00	AVG	Р	
8	0.6179	10.80	17.70	28.50	56.00	-27.50	QP	Р	
9	0.7700	10.80	18.50	29.30	56.00	-26.70	QP	Р	
10	0.7700	10.80	16.10	26.90	46.00	-19.10	AVG	Р	
11	1.0020	10.80	18.60	29.40	56.00	-26.60	QP	Р	
12	1.0020	10.80	13.80	24.60	46.00	-21.40	AVG	Р	



Conducted Emission

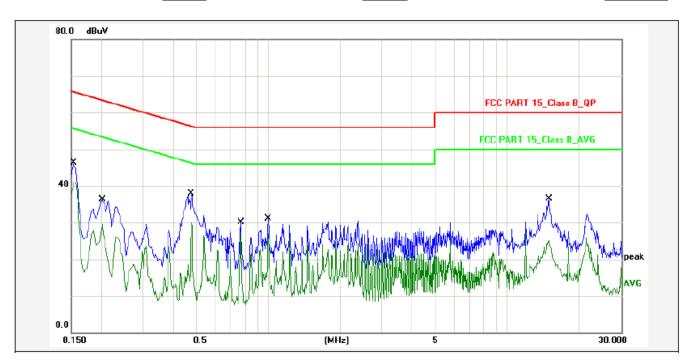
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : USB data transmission
Tested on : Power Line, Live

Comment : DC 5V (connect to PC, input AC 120VAC/60Hz)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1539	10.80	32.50	43.30	65.78	-22.48	QP	Р	
2	0.1539	10.80	27.10	37.90	55.78	-17.88	AVG	Р	
3	0.2020	10.80	22.50	33.30	63.52	-30.22	QP	Р	
4	0.2020	10.80	15.70	26.50	53.52	-27.02	AVG	Р	
5	0.4780	10.80	24.00	34.80	56.37	-21.57	QP	Р	
6	0.4780	10.80	16.10	26.90	46.37	-19.47	AVG	Р	
7	0.7700	10.80	16.30	27.10	56.00	-28.90	QP	Р	
8	0.7700	10.80	13.50	24.30	46.00	-21.70	AVG	Р	
9	1.0020	10.80	17.30	28.10	56.00	-27.90	QP	Р	
10	1.0020	10.80	13.00	23.80	46.00	-22.20	AVG	Р	
11	14.9379	10.80	22.70	33.50	60.00	-26.50	QP	Р	
12	14.9379	10.80	11.30	22.10	50.00	-27.90	AVG	Р	



Conducted Emission

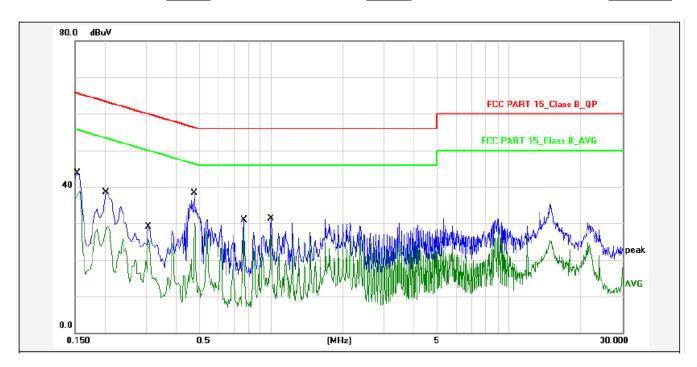
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : USB data transmission
Tested on : Power Line, Neutral

Comment : DC 5V (connect to PC, input AC 120VAC/60Hz)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1539	10.80	29.90	40.70	65.78	-25.08	QP	Р	
2	0.1539	10.80	25.10	35.90	55.78	-19.88	AVG	Р	
3	0.2020	10.80	24.70	35.50	63.52	-28.02	QP	Р	
4	0.2020	10.80	15.30	26.10	53.52	-27.42	AVG	Р	
5	0.3060	10.80	15.30	26.10	60.08	-33.98	QP	Р	
6	0.3060	10.80	11.80	22.60	50.08	-27.48	AVG	Р	
7	0.4780	10.80	24.40	35.20	56.37	-21.17	QP	Р	
8	0.4780	10.80	16.80	27.60	46.37	-18.77	AVG	Р	
9	0.7700	10.80	17.00	27.80	56.00	-28.20	QP	Р	
10	0.7700	10.80	14.60	25.40	46.00	-20.60	AVG	Р	
11	1.0020	10.80	17.50	28.30	56.00	-27.70	QP	Р	
12	1.0020	10.80	12.80	23.60	46.00	-22.40	AVG	Р	



Test Equipment List

Conducted emission test

Equipment	Manufacturer	Model No.	Serial No.	Cal. due. date
Test Receiver	Rohde & Schwarz	ESCI	101152	Mar. 08, 2016
L.I.S.N	Rohde & Schwarz	ENV 216	101317	Mar. 08, 2016
L.I.S.N	Schwarzbeck	NNLK8129	8129-212	Mar. 22, 2016
RF Switching Unit	Compliance Direction Systems Inc.	RSU-M2	38311	Mar. 08, 2016
Pulse Limiter	MTS-systemtechnik	MTS-IMP-136	26115-010-0007	Mar. 08, 2016



7.2 Radiated Emission Test

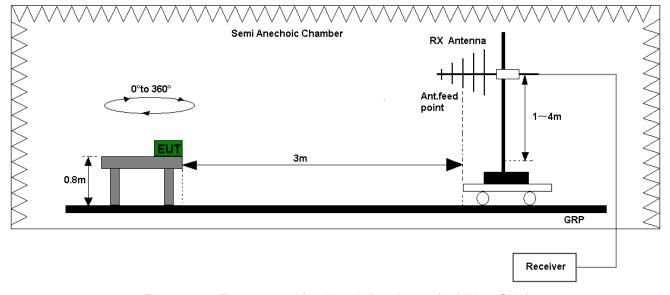
Test Method

- 1. The test site semi-anechoic chamber has met the requirement of NSA tolerance 4dB according to the standards: ANSI C63.4. The test distance was 3m for 30 ~ 1GHz. The test site full-anechoic chamber has met the requirement of VSWR tolerance 6dB according to the standards: CISPR 16-1-4. The test distance was 3m for 1GHz ~ 6GHz.
- 2. The set-up and test methods were according to ANSI C63.4.
- 3. A preliminary scan and a final scan of the emissions were made from 30 MHz to 1GHz by using test script of software; the emissions were measured using Quasi-Peak Detector (30MHz~1GHz) and AV/PK Detector (above 1GHz).. The maximal emission value was acquired by adjusting the antenna height, polarization and turntable azimuth in accordance with the software setup. Normally, the height range of antenna was 1m to 4m, the azimuth range of turntable was 0°to 360°, The receive antenna has two polarizations V and H.

Limit

According to part 15.247(d), the radio emission outside the operating frequency band shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power. Radiated emissions which fall in the restricted bands, as defined in section15.205, must comply with the radiated emission limits specified in section 15.209.

Frequency	Field Strength	Field Strength	Detector
MHz	uV/m	dBµV/m	
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK



<u>Figure 2.</u> Test set-up of radiated disturbance(30MHz-1GHz)



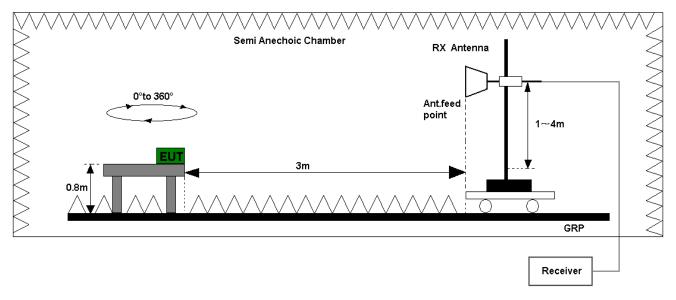


Figure 3. Test set-up of radiated disturbance(above 1GHz)



Radiated Emission Test 30MHz - 1000MHz

Product Type : Digital Video Camera

Model No. : DV4000

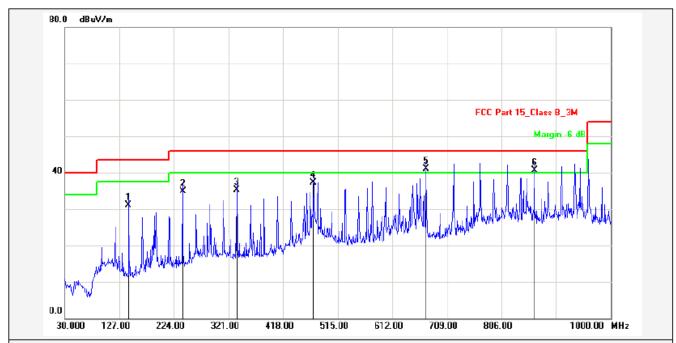
Test requirement : FCC Part 15 Subpart B
Operating mode : Video Recording

Tested on : Horizontal

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015

Temperature (°C): 21 Relative Humidity (%): 55 Atmospheric Pressure(mbar): 1009



Report No.: DV4000

Test Standard: FCC Part 15_Class B_3M Test Distance:

Test item: Radiation Emission Ant. Polarization: Horizontal

Applicant: SHUOYING Temp.(C)/Hum.(%): 21(C) / 55 %

Product: Digital Video Camera Power Rating: DC 3.7V Model No.: DV4000 Test Engineer: Gavin

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	143.4900	-15.59	46.79	31.20	43.50	-12.30	QP			Р	
2	239.5200	-12.06	46.96	34.90	46.00	-11.10	QP			Р	
3	335.5500	-9.43	44.83	35.40	46.00	-10.60	QP			Р	
4	472.3199	-7.42	44.72	37.30	46.00	-8.70	QP			Р	
5	672.1399	-4.57	45.77	41.20	46.00	-4.80	QP			Р	
6	864.2000	-1.11	41.91	40.80	46.00	-5.20	QP			Р	



Radiated Emission Test 30MHz - 1000MHz

Product Type : Digital Video Camera

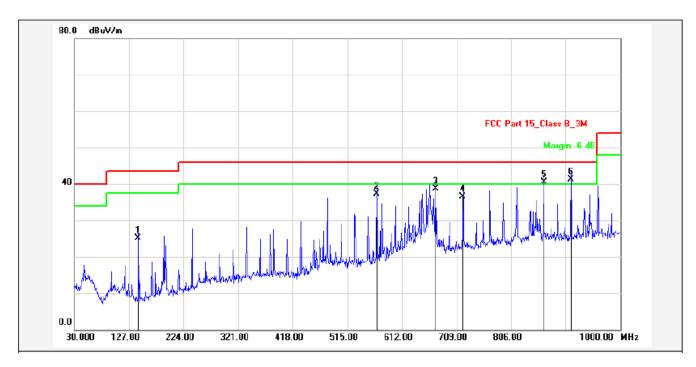
Model No. : DV4000

Test requirement : FCC Part 15 Subpart B Operating mode : Video Recording

Tested on : Vertical

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	143.4900	-18.59	43.69	25.10	43.50	-18.40	QP			Р	
2	567.3799	-7.98	45.38	37.40	46.00	-8.60	QP			Р	
3	672.1399	-4.57	43.37	38.80	46.00	-7.20	QP			Р	
4	720.6399	-3.28	39.78	36.50	46.00	-9.50	QP			Р	
5	864.2000	-1.11	41.61	40.50	46.00	-5.50	QP			Р	
6	912.7000	-0.98	42.38	41.40	46.00	-4.60	QP			Р	



Radiated Emission Test 30MHz - 1000MHz

Product Type : Digital Video Camera

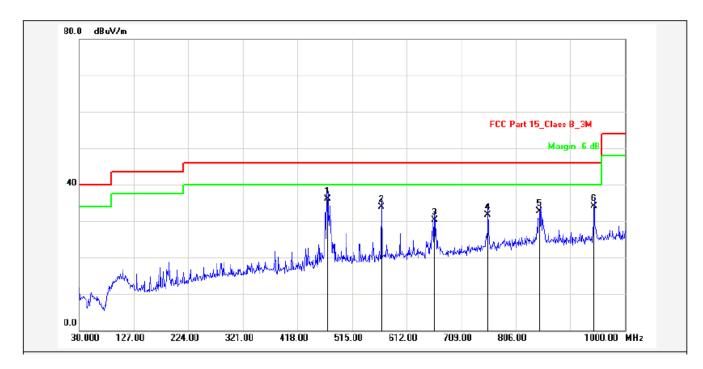
Model No. : DV4000

Test requirement : FCC Part 15 Subpart B

Operating mode : Playback mode Tested on : Horizontal

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	472.3199	-7.42	43.52	36.10	46.00	-9.90	QP			Р	
2	567.3799	-5.98	39.88	33.90	46.00	-12.10	QP			Р	
3	661.4699	-4.85	35.25	30.40	46.00	-15.60	QP			Р	
4	756.5298	-2.50	34.30	31.80	46.00	-14.20	QP			Р	
5	848.6798	-1.15	33.95	32.80	46.00	-13.20	QP			Р	
6	945.6798	-0.28	34.38	34.10	46.00	-11.90	QP			Р	



Radiated Emission Test 30MHz - 1000MHz

Product Type : Digital Video Camera

Model No. : DV4000

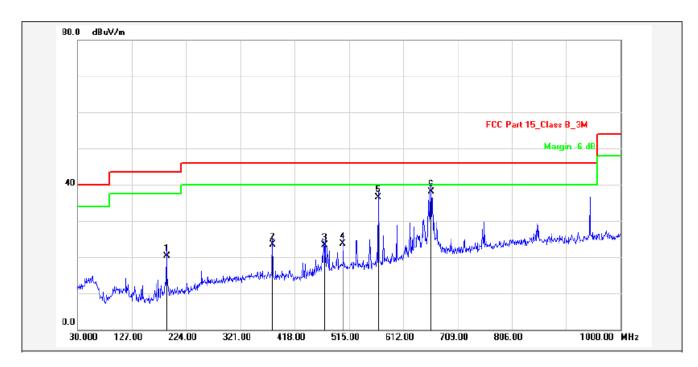
Test requirement : FCC Part 15 Subpart B

Operating mode : Playback mode

Tested on : Vertical

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	189.0800	-16.63	36.93	20.30	43.50	-23.20	QP			Р	
2	378.2300	-11.19	34.69	23.50	46.00	-22.50	QP			Р	
3	472.3199	-9.42	32.82	23.40	46.00	-22.60	QP			Р	
4	504.3299	-8.76	32.56	23.80	46.00	-22.20	QP			Р	
5	567.3799	-7.98	44.58	36.60	46.00	-9.40	QP	·	·	Р	
6	661.4699	-4.85	42.95	38.10	46.00	-7.90	QP			Р	



Radiated Emission Test 30MHz - 1000MHz

Product Type : Digital Video Camera

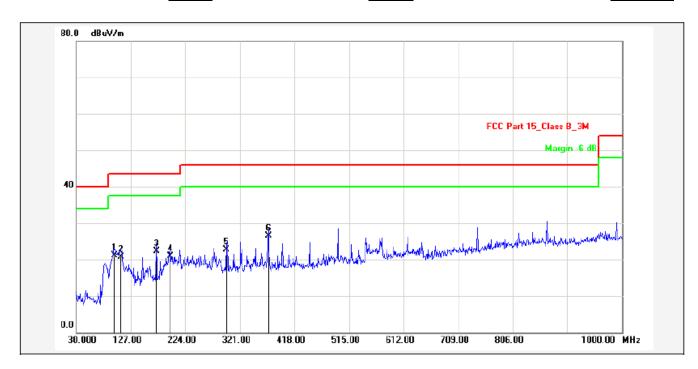
Model No. : DV4000

Test requirement : FCC Part 15 Subpart B Operating mode : HD TV output mode

Tested on : Horizontal

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	97.9000	-12.40	33.60	21.20	43.50	-22.30	QP			Р	
2	109.5400	-12.15	32.95	20.80	43.50	-22.70	QP			Р	
3	172.5900	-14.65	37.05	22.40	43.50	-21.10	QP			Р	
4	197.8100	-13.43	34.43	21.00	43.50	-22.50	QP			Р	
5	296.7500	-10.56	33.26	22.70	46.00	-23.30	QP			Р	
6	371.4400	-9.17	35.77	26.60	46.00	-19.40	QP			Р	



Radiated Emission Test 30MHz - 1000MHz

Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : HD TV output mode

Tested on : Vertical

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	34.8500	-16.17	36.97	20.80	40.00	-19.20	QP			Р	
2	93.0500	-16.22	40.12	23.90	43.50	-19.60	QP			Р	
3	172.5900	-17.65	33.55	15.90	43.50	-27.60	QP			Р	
4	279.2900	-12.99	28.49	15.50	46.00	-30.50	QP			Р	
5	371.4400	-11.17	31.97	20.80	46.00	-25.20	QP			Р	
6	445.1600	-10.82	37.32	26.50	46.00	-19.50	QP			Р	



Radiated Emission Test 30MHz - 1000MHz

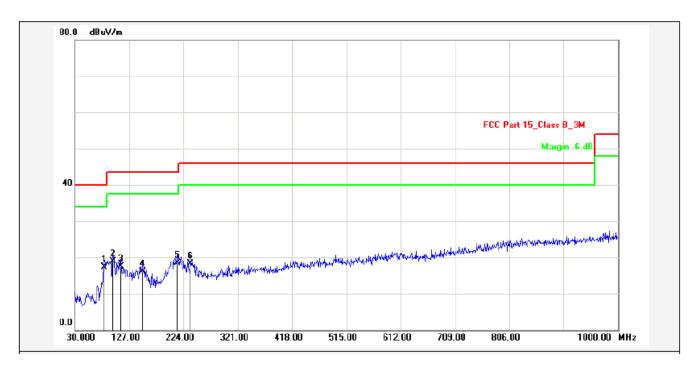
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B

Operating mode : Charging Tested on : Horizontal

Comment : DC 5V (Supplied by PC)
Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	82.3800	-15.68	33.08	17.40	40.00	-22.60	QP			Р	
2	97.9000	-12.40	31.30	18.90	43.50	-24.60	QP			Р	
3	111.4800	-12.41	29.91	17.50	43.50	-26.00	QP			Р	
4	151.2500	-15.47	31.57	16.10	43.50	-27.40	QP			Р	
5	212.3600	-13.19	31.69	18.50	43.50	-25.00	QP		·	Р	
6	236.6100	-12.18	30.58	18.40	46.00	-27.60	QP			Р	



Radiated Emission Test 30MHz - 1000MHz

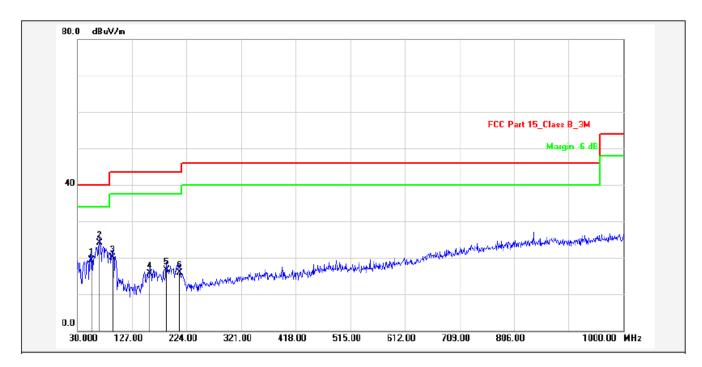
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B

Operating mode : Charging Tested on : Vertical

Comment : DC 5V (Supplied by PC)
Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	55.2200	-13.71	33.01	19.30	40.00	-20.70	QP			Р	
2	69.7700	-17.31	41.51	24.20	40.00	-15.80	QP			Р	
3	92.0800	-16.45	36.65	20.20	43.50	-23.30	QP			Р	
4	159.0100	-18.20	33.90	15.70	43.50	-27.80	QP			Р	
5	188.1100	-16.68	33.48	16.80	43.50	-26.70	QP			Р	
6	211.3900	-16.21	32.11	15.90	43.50	-27.60	QP			Р	



Radiated Emission Test 30MHz - 1000MHz

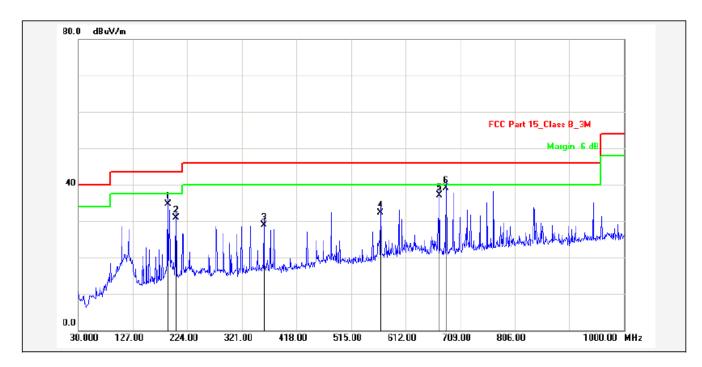
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : PC Camera mode

Tested on : Horizontal

Comment : DC 5V (Supplied by PC)
Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	189.0800	-13.63	48.43	34.80	43.50	-8.70	QP			Р	
2	203.6299	-13.37	44.27	30.90	43.50	-12.60	QP			Р	
3	359.8000	-9.13	38.03	28.90	46.00	-17.10	QP			Р	
4	567.3799	-5.98	38.38	32.40	46.00	-13.60	QP			Р	
5	672.1399	-4.57	41.67	37.10	46.00	-8.90	QP			Р	
6	683.7800	-4.26	43.46	39.20	46.00	-6.80	QP	·		Р	



Radiated Emission Test 30MHz - 1000MHz

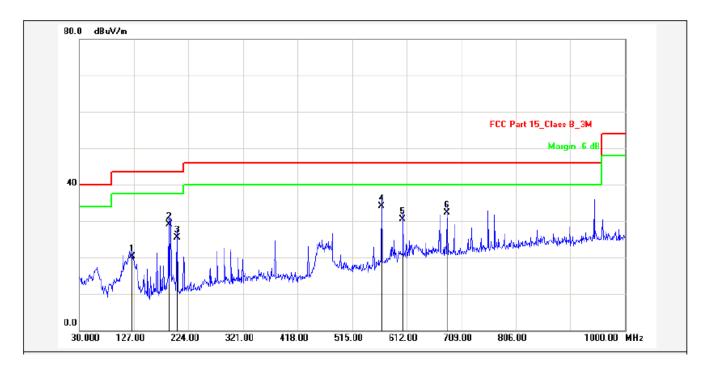
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : PC Camera mode

Tested on : Vertical

Comment : DC 5V (Supplied by PC)
Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	124.0900	-17.51	37.81	20.30	43.50	-23.20	QP			Р	
2	189.0800	-16.63	45.83	29.20	43.50	-14.30	QP			Р	
3	203.6299	-16.37	41.87	25.50	43.50	-18.00	QP			Р	
4	567.3800	-7.98	42.08	34.10	46.00	-11.90	QP			Р	
5	605.2100	-7.01	37.51	30.50	46.00	-15.50	QP			Р	
6	683.7799	-4.26	36.66	32.40	46.00	-13.60	QP			Р	



Radiated Emission Test 30MHz - 1000MHz

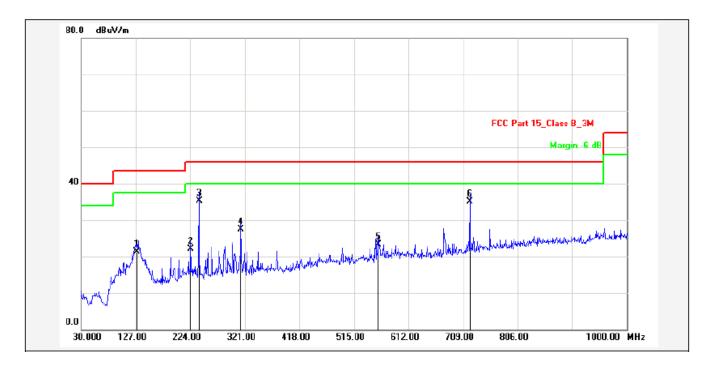
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : USB data transmission mode

Tested on : Horizontal

Comment : DC 5V (Supplied by PC)
Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	128.9400	-15.04	36.44	21.40	43.50	-22.10	QP			Р	
2	224.9699	-12.71	34.81	22.10	46.00	-23.90	QP			Р	
3	239.5200	-12.06	47.46	35.40	46.00	-10.60	QP			Р	
4	314.2100	-10.09	37.59	27.50	46.00	-18.50	QP			Р	
5	558.6499	-6.27	29.67	23.40	46.00	-22.60	QP			Р	
6	720.6400	-3.28	38.38	35.10	46.00	-10.90	QP		·	Р	



Radiated Emission Test 30MHz - 1000MHz

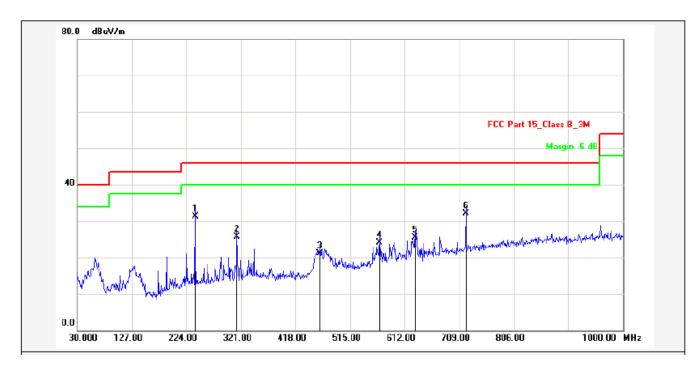
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : USB data transmission mode

Tested on : Vertical

Comment : DC 5V (Supplied by PC)
Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	239.5200	-15.06	46.36	31.30	46.00	-14.70	QP			Р	
2	314.2100	-12.09	37.89	25.80	46.00	-20.20	QP			Р	
3	461.6499	-9.68	30.88	21.20	46.00	-24.80	QP			Р	
4	567.3799	-7.98	32.08	24.10	46.00	-21.90	QP			Р	
5	630.4299	-6.60	32.10	25.50	46.00	-20.50	QP			Р	
6	720.6400	-3.28	35.38	32.10	46.00	-13.90	QP			Р	



Radiated Emission Test 1000MHz - 6000MHz

Product Type : Digital Video Camera

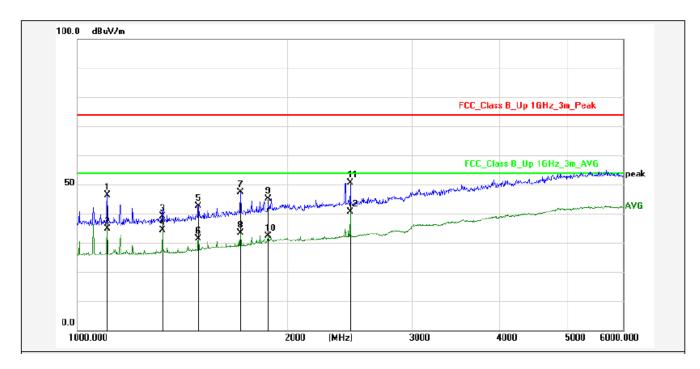
Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : Video Recording

Tested on : Horizontal

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1103.566	1.70	44.63	46.33	74.00	-27.67	peak			Р	
2	1103.566	1.70	33.22	34.92	54.00	-19.08	AVG			Р	
3	1322.487	2.71	36.50	39.21	74.00	-34.79	peak			Р	
4	1322.487	2.71	31.70	34.41	54.00	-19.59	AVG			Р	
5	1488.503	3.61	39.00	42.61	74.00	-31.39	peak			Р	
6	1488.503	3.61	27.72	31.33	54.00	-22.67	AVG			Р	
7	1708.706	5.21	42.12	47.33	74.00	-26.67	peak			Р	
8	1708.706	5.21	28.06	33.27	54.00	-20.73	AVG			Р	
9	1872.203	6.21	38.89	45.10	74.00	-28.90	peak			Р	
10	1872.203	6.21	26.22	32.43	54.00	-21.57	AVG			Р	
11	2449.490	8.24	42.47	50.71	74.00	-23.29	peak			Р	
12	2449.490	8.24	32.44	40.68	54.00	-13.32	AVG			Р	



Radiated Emission Test 1000MHz - 6000MHz

Product Type : Digital Video Camera

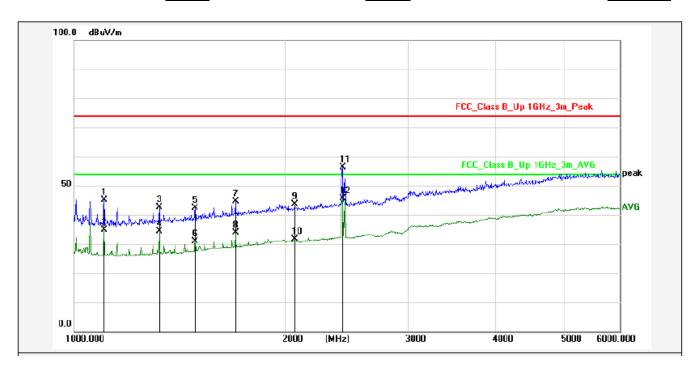
Model No. : DV4000

Test requirement : FCC Part 15 Subpart B Operating mode : Video Recording

Tested on : Vertical

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1103.566	1.70	43.43	45.13	74.00	-28.87	peak			Р	
2	1103.566	1.70	33.15	34.85	54.00	-19.15	AVG			Р	
3	1322.487	2.71	40.03	42.74	74.00	-31.26	peak			Р	
4	1322.487	2.71	31.62	34.33	54.00	-19.67	AVG			Р	
5	1488.503	3.61	38.81	42.42	74.00	-31.58	peak			Р	
6	1488.503	3.61	27.31	30.92	54.00	-23.08	AVG			Р	
7	1699.545	5.13	39.54	44.67	74.00	-29.33	peak			Р	
8	1699.545	5.13	28.81	33.94	54.00	-20.06	AVG			Р	
9	2062.401	7.13	36.57	43.70	74.00	-30.30	peak			Р	
10	2062.401	7.13	24.54	31.67	54.00	-22.33	AVG			Р	
11	2414.629	8.13	48.29	56.42	74.00	-17.58	peak			Р	
12	2414.629	8.13	37.52	45.65	54.00	-8.35	AVG			Р	



Radiated Emission Test 1000MHz - 6000MHz

Product Type : Digital Video Camera

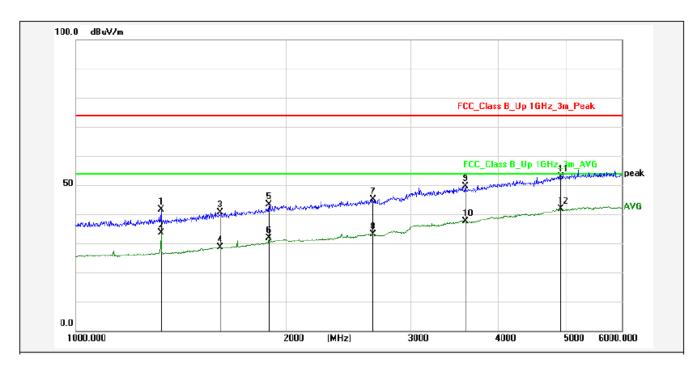
Model No. : DV4000

Test requirement : FCC Part 15 Subpart B

Operating mode : Playback mode Tested on : Horizontal

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1322.487	2.71	38.98	41.69	74.00	-32.31	peak			Р	
2	1322.487	2.71	30.88	33.59	54.00	-20.41	AVG			Р	
3	1604.841	4.44	36.16	40.60	74.00	-33.40	peak			Р	
4	1604.841	4.44	24.20	28.64	54.00	-25.36	AVG			Р	
5	1885.669	6.30	37.03	43.33	74.00	-30.67	peak			Р	
6	1885.669	6.30	25.46	31.76	54.00	-22.24	AVG			Р	
7	2655.171	8.60	36.59	45.19	74.00	-28.81	peak			Р	
8	2655.171	8.60	24.53	33.13	54.00	-20.87	AVG			Р	
9	3600.627	10.72	38.89	49.61	74.00	-24.39	peak			Р	
10	3600.627	10.72	27.02	37.74	54.00	-16.26	AVG			Р	
11	4917.863	15.12	37.77	52.89	74.00	-21.11	peak			Р	
12	4917.863	15.12	26.75	41.87	54.00	-12.13	AVG			Р	



Radiated Emission Test 1000MHz - 6000MHz

Product Type : Digital Video Camera

Model No. : DV4000

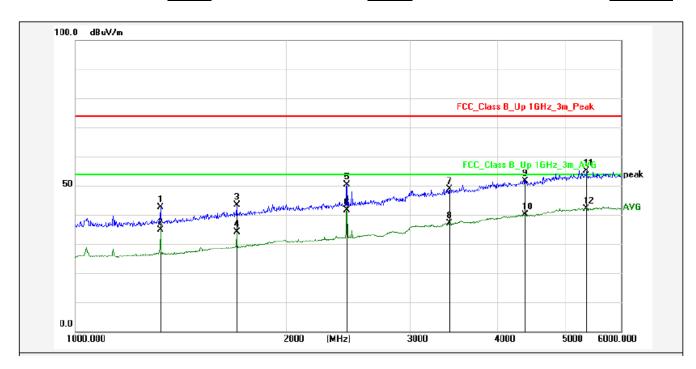
Test requirement : FCC Part 15 Subpart B

Operating mode : Playback mode

Tested on : Vertical

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1322.487	2.71	39.85	42.56	74.00	-31.44	peak			Р	
2	1322.487	2.71	32.20	34.91	54.00	-19.09	AVG			Р	
3	1699.545	5.13	38.24	43.37	74.00	-30.63	peak			Р	
4	1699.545	5.13	29.04	34.17	54.00	-19.83	AVG			Р	
5	2440.728	8.23	42.20	50.43	74.00	-23.57	peak			Р	
6	2440.728	8.23	33.43	41.66	54.00	-12.34	AVG			Р	
7	3418.312	10.20	38.58	48.78	74.00	-25.22	peak			Р	
8	3418.312	10.20	26.94	37.14	54.00	-16.86	AVG			Р	
9	4385.052	13.22	38.31	51.53	74.00	-22.47	peak			Р	
10	4385.052	13.22	26.82	40.04	54.00	-13.96	AVG			Р	
11	5340.371	16.11	38.90	55.01	74.00	-18.99	peak			Р	
12	5340.371	16.11	26.14	42.25	54.00	-11.75	AVG			Р	



Radiated Emission Test 1000MHz - 6000MHz

Product Type : Digital Video Camera

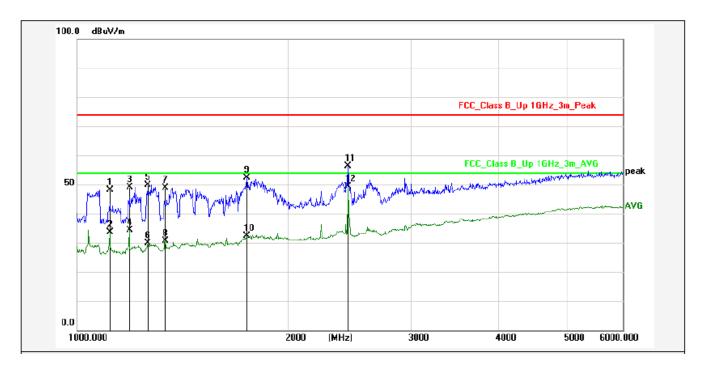
Model No. : DV4000

Test requirement : FCC Part 15 Subpart B Operating mode : HD TV output mode

Tested on : Horizontal

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1113.497	1.74	46.38	48.12	74.00	-25.88	peak			Р	
2	1113.497	1.74	31.91	33.65	54.00	-20.35	AVG			Р	
3	1187.688	2.06	47.01	49.07	74.00	-24.93	peak			Р	
4	1187.688	2.06	32.20	34.26	54.00	-19.74	AVG			Р	
5	1262.292	2.39	47.40	49.79	74.00	-24.21	peak			Р	
6	1262.292	2.39	27.42	29.81	54.00	-24.19	AVG			Р	
7	1336.782	2.79	46.20	48.99	74.00	-25.01	peak			Р	
8	1336.782	2.79	27.96	30.75	54.00	-23.25	AVG			Р	
9	1745.842	5.47	46.91	52.38	74.00	-21.62	peak			Р	
10	1745.842	5.47	26.91	32.38	54.00	-21.62	AVG			Р	
11	2436.358	8.20	48.23	56.43	74.00	-17.57	peak			Р	
12	2436.358	8.20	41.30	49.50	54.00	-4.50	AVG			Р	



Radiated Emission Test 1000MHz - 6000MHz

Product Type : Digital Video Camera

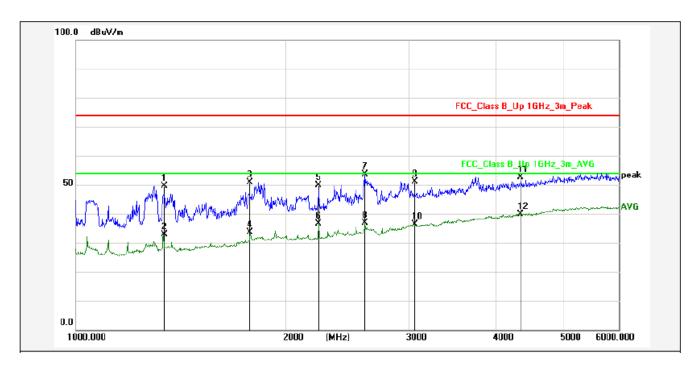
Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : HD TV output mode

Tested on : Vertical

Comment : DC 3.7V (Supplied by built-in lithium battery)

Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1336.782	2.79	46.77	49.56	74.00	-24.44	peak			Р	
2	1336.782	2.79	29.99	32.78	54.00	-21.22	AVG			Р	
3	1780.593	5.67	45.19	50.86	74.00	-23.14	peak			Р	
4	1780.593	5.67	27.87	33.54	54.00	-20.46	AVG			Р	
5	2227.581	7.53	42.33	49.86	74.00	-24.14	peak			Р	
6	2227.581	7.53	29.02	36.55	54.00	-17.45	AVG			Р	
7	2598.691	8.53	45.04	53.57	74.00	-20.43	peak			Р	
8	2598.691	8.53	28.47	37.00	54.00	-17.00	AVG			Р	
9	3064.393	9.44	41.76	51.20	74.00	-22.80	peak			Р	
10	3064.393	9.44	26.98	36.42	54.00	-17.58	AVG			Р	
11	4338.163	13.11	39.60	52.71	74.00	-21.29	peak			Р	
12	4338.163	13.11	26.72	39.83	54.00	-14.17	AVG			Р	



Radiated Emission Test 1000MHz - 6000MHz

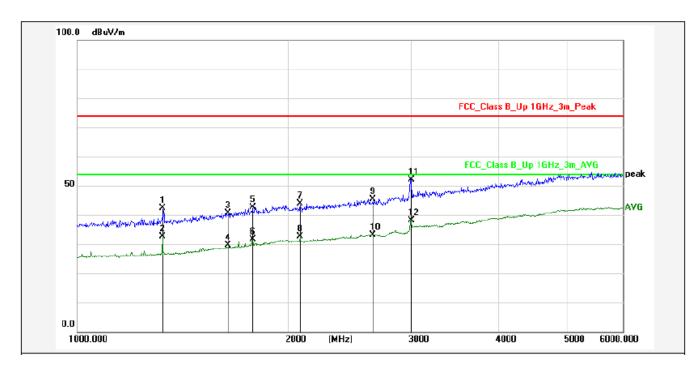
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : PC Camera mode

Tested on : Horizontal

Comment : DC 5V (Supplied by PC)
Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1322.487	2.71	39.59	42.30	74.00	-31.70	peak			Р	
2	1322.487	2.71	29.85	32.56	54.00	-21.44	AVG			Р	
3	1642.661	4.72	35.85	40.57	74.00	-33.43	peak			Р	
4	1642.661	4.72	24.80	29.52	54.00	-24.48	AVG			Р	
5	1777.406	5.65	36.98	42.63	74.00	-31.37	peak			Р	
6	1777.406	5.65	26.04	31.69	54.00	-22.31	AVG			Р	
7	2077.235	7.17	36.75	43.92	74.00	-30.08	peak			Р	
8	2077.235	7.17	25.39	32.56	54.00	-21.44	AVG			Р	
9	2640.937	8.59	36.71	45.30	74.00	-28.70	peak			Р	
10	2640.937	8.59	24.60	33.19	54.00	-20.81	AVG			Р	
11	2993.840	9.24	42.81	52.05	74.00	-21.95	peak			Р	
12	2993.840	9.24	28.96	38.20	54.00	-15.80	AVG			Р	



Radiated Emission Test 1000MHz - 6000MHz

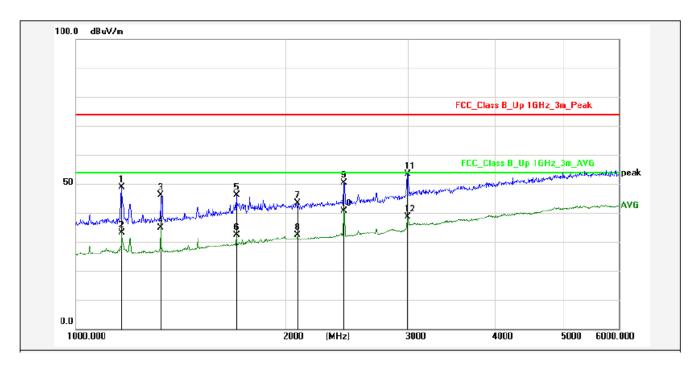
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : PC Camera mode

Tested on : Vertical

Comment : DC 5V (Supplied by PC)
Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1164.509	1.96	46.90	48.86	74.00	-25.14	peak			Р	
2	1164.509	1.96	31.07	33.03	54.00	-20.97	AVG			Р	
3	1322.487	2.71	43.53	46.24	74.00	-27.76	peak			Р	
4	1322.487	2.71	32.28	34.99	54.00	-19.01	AVG			Р	
5	1699.545	5.13	40.94	46.07	74.00	-27.93	peak			Р	
6	1699.545	5.13	27.31	32.44	54.00	-21.56	AVG			Р	
7	2077.235	7.17	36.22	43.39	74.00	-30.61	peak			Р	
8	2077.235	7.17	25.27	32.44	54.00	-21.56	AVG			Р	
9	2423.297	8.16	42.33	50.49	74.00	-23.51	peak			Р	
10	2423.297	8.16	32.35	40.51	54.00	-13.49	AVG			Р	
11	2988.480	9.23	44.25	53.48	74.00	-20.52	peak			Р	
12	2988.480	9.23	29.44	38.67	54.00	-15.33	AVG			Р	



Radiated Emission Test 1000MHz - 6000MHz

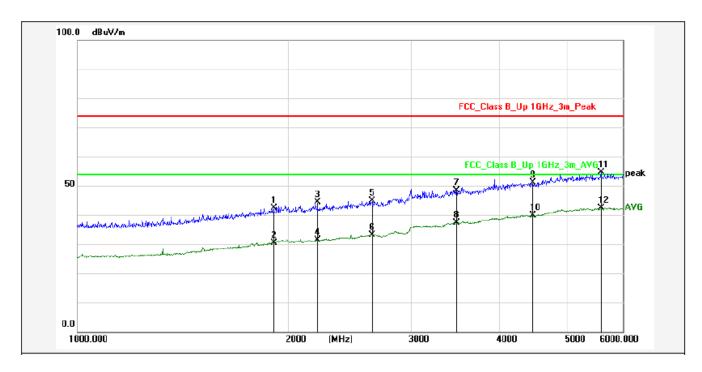
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : USB data transmission mode

Tested on : Horizontal

Comment : DC 5V (Supplied by PC)
Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1909.469	6.43	35.95	42.38	74.00	-31.62	peak			Р	
2	1909.469	6.43	24.05	30.48	54.00	-23.52	AVG			Р	
3	2203.762	7.48	36.80	44.28	74.00	-29.72	peak			Р	
4	2203.762	7.48	23.84	31.32	54.00	-22.68	AVG			Р	
5	2631.490	8.57	36.34	44.91	74.00	-29.09	peak			Р	
6	2631.490	8.57	24.58	33.15	54.00	-20.85	AVG			Р	
7	3467.664	10.28	38.22	48.50	74.00	-25.50	peak			Р	
8	3467.664	10.28	27.03	37.31	54.00	-16.69	AVG			Р	
9	4464.330	13.42	37.68	51.10	74.00	-22.90	peak			Р	
10	4464.330	13.42	26.42	39.84	54.00	-14.16	AVG			Р	
11	5585.026	16.41	38.21	54.62	74.00	-19.38	peak			Р	
12	5585.026	16.41	26.05	42.46	54.00	-11.54	AVG			Р	



Radiated Emission Test 1000MHz - 6000MHz

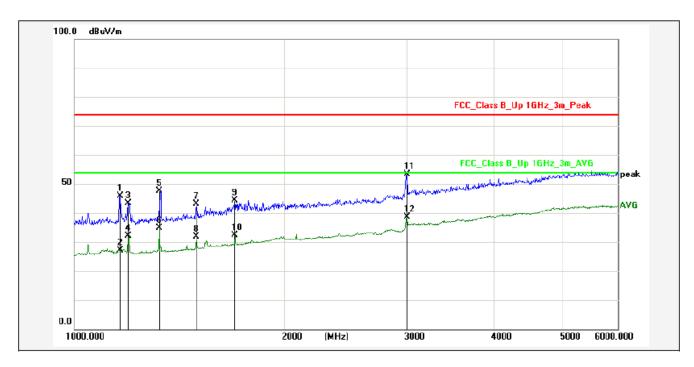
Product Type : Digital Video Camera

Model No. : DV4000

Test requirement : FCC Part 15 Subpart B
Operating mode : USB data transmission mode

Tested on : Vertical

Comment : DC 5V (Supplied by PC)
Date of test : 14 September 2015



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1162.424	1.95	43.95	45.90	74.00	-28.10	peak			Р	
2	1162.424	1.95	25.22	27.17	54.00	-26.83	AVG			Р	
3	1196.231	2.09	41.26	43.35	74.00	-30.65	peak			Р	
4	1196.231	2.09	30.06	32.15	54.00	-21.85	AVG			Р	
5	1322.487	2.71	44.96	47.67	74.00	-26.33	peak			Р	
6	1322.487	2.71	32.26	34.97	54.00	-19.03	AVG			Р	
7	1493.846	3.63	39.54	43.17	74.00	-30.83	peak			Р	
8	1493.846	3.63	28.14	31.77	54.00	-22.23	AVG			Р	
9	1699.545	5.13	39.19	44.32	74.00	-29.68	peak			Р	
10	1699.545	5.13	27.28	32.41	54.00	-21.59	AVG			Р	
11	2993.840	9.24	44.20	53.44	74.00	-20.56	peak			Р	
12	2993.840	9.24	29.41	38.65	54.00	-15.35	AVG			Р	



Test Equipment List

Radiated Emission Test

DESCRIPTION	MANUFACTUR ER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
Test Receiver	Rohde & Schwarz	ESCI7	100837	Mar. 08, 2016
Antenna	Schwarzbeck	VULB9162	9162-010	Mar. 22, 2016
Positioning Controller	UC	UC 3000	N/A	N/A
Color Monitor	SUNSPO	SP-140A	N/A	N/A
Single Phase Power Line Filter	SAEMC	PF201A-32	110210	N/A
3 Phase Power Line Filter	SAEMC	PF401A-200	110318	N/A
DC Power Filter	SAEMC	PF301A-200	110245	N/A
Cable	Huber+Suhner	CBL3-NN-9M	21490001	Mar. 08, 2016
Cable	Huber+Suhner	RG223U	N/A	Mar. 08, 2016
Power Amplifier	HP	HP 8447D	1145A00203	Mar. 08, 2016
Horn Antenna	COM-Power	AH-118	071078	Mar. 22, 2016
Pre-Amplifier	COM-Power	PAM-118	443007	Mar. 08, 2016



8 System Measurement Uncertainty

Test Item	Frequency	Expanded	Expanded
	, , , , , , , , , , , , , , , , , , , ,	Uncertainty (U _{lab})	Uncertainty (U _{cispr})
Conducted Emission	150KHz - 30MHz	±2.70dB	±3.60dB
Radiated Emission	Horizontal	±3.24 dB	±5.20dB
	30MHz - 200MHz	±3.24 UB	
	Vertical	±3.40 dB	±5.20dB
	30MHz - 200MHz	±0.40 dB	
	Horizontal	±3.42 dB	±5.20dB
	200MHz - 1000MHz		
	Vertical	±3.40 dB	±5.20dB
	200MHz - 1000MHz		
	Horizontal (1000MHz -	±3.79 dB	±6.00 dB
	6000MHz)		
	Vertical (1000MHz -	±3.84 dB	±6.00 dB
	6000MHz)		