**Exhibit Q: AC Powerline Conducted Emissions** 

FCC ID: P6I-COPYCAM203

## **AC Powerline Conducted Emissions**

Revision 2/4/02

### **Justification**

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Low
Mid
High

## Operating Modes Investigated:

No Hop

### **Data Rates Investigated:**

Maximum

### **Output Power Setting(s) Investigated:**

Maximum

### **Power Input Settings Investigated:**

120 VAC, 60 Hz.

Frequency Range Investigated					
Start Frequency	150 kHz	Stop Frequency	30 MHz		

Software\Firmware Applied During Test							
Exercise software							
Description	Description						
The system was tested using special software developed to test all functions of the device during the test.							
The software allowed the l	owest, middle, and highest	channels to be selected.					

### **Equipment Modifications**

No EMI suppression devices were added or modified. The EUT was tested as delivered.

### **EUT and Peripherals**

Description	Manufacturer	Model/Part Number	Serial Number
EUT - Bluetooth Radio	Polyvision Corp.	CopyCam	A0200415
Host Device	Polyvision Corp.	CopyCam Arm	A0200415
Controller	Polyvision Corp.	CopyCam Controller	A0200415
Remote notebook PC	Dell	PPL	DPDL3
Remote DSL Router	LinkSys	BEFSR41	C211A052833K
EUT Power Adapter	AULT Inc.	P48151000A050G	0203

## **AC Powerline Conducted Emissions**

Revision 2/4/02

### **Cables**

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Cat 5 E-net	No	5.0	No	Host Device	Controller
DC Cable	No	7	Two	Host Device	EUT Power Adapter
Cat 5 E-net	No	8.0	No	Host Device	Remote DSL Router

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

### **Measurement Equipment**

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Hewlett-Packard	8566B	AAL	03/19/2002	12 mo
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQF	03/19/2002	12 mo
LISN	Solar	9252-50-R-24-BNC	LIP	06/12/2002	12 mo
High Pass Filter	TTE	H97-100k-50-720B	HFC	12/11/2001	12 mo

### **Test Description**

**Requirement:** Per 47 15.207(d), if the EUT is connected to the AC power line indirectly, obtaining its power from another device that is connected to the AC power line, then it should be tested to demonstrate compliance with the conducted limits of 15.207.

<u>Configuration:</u> The EUT will be powered from a host device (CopyCam Arm) that is connected to the AC power line. Therefore, the measurements were made on the host device used to power the EUT. The AC power line conducted emissions were measured with the EUT operating at the lowest, the highest, and a middle channel in the operational band. The EUT was transmitting at its maximum data rate. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.4-1992.

Completed by:

NORTHWEST EMC	CONDUCTED EMI	REV df3.01 09/20/2002				
EUT:	СоруСАМ		Work Order:	POLV0019		
Serial Number:	A0200415		Date:	10/4/02 12:14		
Customer:	Polyvision Corp.		Temperature:	72		
Attendees:	Terry Skelton, Jeff Traw		Humidity:	42%		
Cust. Ref. No.:			Barometric Pressure	30.11		
Tested by:	Greg Kiemel	Power: 120 V, 60 Hz	Job Site:	EV01		
<b>TEST SPECIFICATI</b>	ONS					
Specification:	CISPR22 Class B		Year:	1997		
Method:	CISPR 22 Year: 1997					
SAMPLE CALCULA	TIONS					

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

### COMMENTS

no hop low channel.

### **EUT OPERATING MODES**

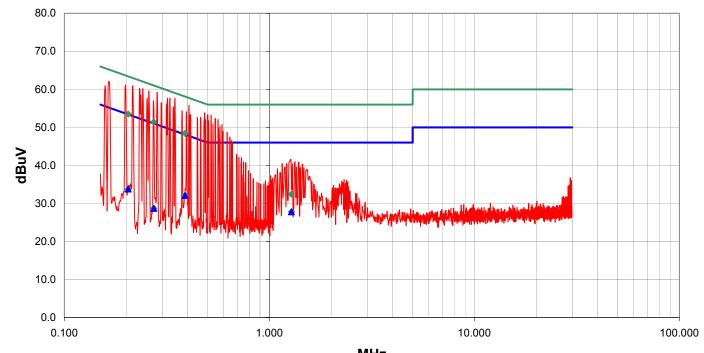
Modulated by ""FFFF"" at maximum data rate.

# DEVIATIONS FROM TEST STANDARD No deviations.

RESULTS	Line	Run #
Pass	L1	1

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Transducer (dB)	Cable (dB)	External Attenuation (dB)	Detector (blank equal peaks [PK] from scan)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.388	12.1	0.0	0.0	20.0	AV	32.1	48.1	-16.0
1.281	7.4	0.0	0.4	20.0	AV	27.8	46.0	-18.2
0.205	13.8	0.0	0.0	20.0	AV	33.8	53.4	-19.6
0.273	8.7	0.0	0.0	20.0	AV	28.7	51.0	-22.3
0.273	31.4	0.0	0.0	20.0	QP	51.4	61.0	-9.6
0.388	28.4	0.0	0.0	20.0	QP	48.4	58.1	-9.7
0.205	33.5	0.0	0.0	20.0	QP	53.5	63.4	-9.9
1.281	12.0	0.0	0.4	20.0	QP	32.4	56.0	-23.6

#### NORTHWEST **CONDUCTED EMISSIONS DATA SHEET** df3.01 **EMC** 09/20/2002 Work Order: POLV0019 **EUT:** CopyCAM Serial Number: A0200415 Date: 10/4/02 12:52 Customer: Polyvision Corp. Temperature: 72 Humidity: 42% Attendees: Terry Skelton, Jeff Traw Cust. Ref. No.: Barometric Pressure 30.11 Power: 120 V, 60 Hz Tested by: Greg Kiemel Job Site: EV01 TEST SPECIFICATIONS Specification: CISPR22 Class B Year: 1997 Year: 1997 Method: CISPR 22 SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

### COMMENTS

no hop low channel

### **EUT OPERATING MODES**

Modulated by ""FFFF"" at maximum data rate.

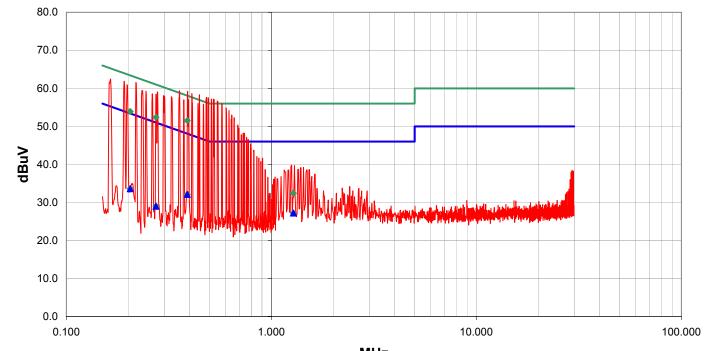
### **DEVIATIONS FROM TEST STANDARD**

No deviations.

RESULTS	Line	Run #
Pass	N	2

Other





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Freq (MHz)	Amplitude (dBuV)	Transducei (dB)	Cable (dB)	External Attenuation (dB)	Detector (blank equal peaks [PK] from scan)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.389	12.1	0.0	0.0	20.0	AV	32.1	48.1	-16.0
1.281	6.8	0.0	0.4	20.0	AV	27.2	46.0	-18.8
0.205	13.6	0.0	0.0	20.0	AV	33.6	53.4	-19.8
0.274	9.0	0.0	0.0	20.0	AV	29.0	51.0	-22.0
0.389	31.5	0.0	0.0	20.0	QP	51.5	58.1	-6.6
0.274	32.4	0.0	0.0	20.0	QP	52.4	61.0	-8.6
0.205	33.9	0.0	0.0	20.0	QP	53.9	63.4	-9.5
1.281	12.0	0.0	0.4	20.0	QP	32.4	56.0	-23.6

NORTHWEST	CONDUCTED EMI	CCIONC DAT	A CHEET	REV		
EMC	CONDUCTED EMISSIONS DATA SHEET					
EUT:	СоруСАМ		Work Order:	POLV0019		
Serial Number:	A0200415		Date:	10/4/02 13:01		
Customer:	Polyvision Corp.	Temperature:	72			
Attendees:	Terry Skelton, Jeff Traw		Humidity:	42%		
Cust. Ref. No.:			Barometric Pressure	30.11		
Tested by:	Greg Kiemel	Power: 120 V, 60 Hz	Job Site:	EV01		
TEST SPECIFICATI	ONS					
Specification:	CISPR22 Class B		Year:	1997		
Method:	CISPR 22		Year:	1997		
SAMPLE CALCULA	TIONS					

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

## Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

COMMENTS no hop mid channel.

### **EUT OPERATING MODES**

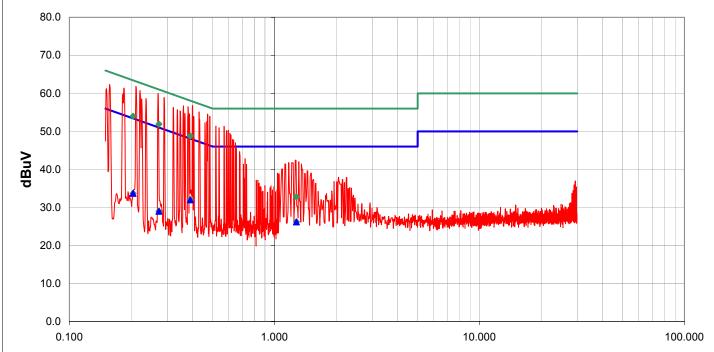
Modulated by ""FFFF"" at maximum data rate.

# DEVIATIONS FROM TEST STANDARD No deviations.

RESULTS Pass L1 3

Other

Tested By:



l								
Freq (MHz)	Amplitude (dBuV)	Transduce (dB)	Cable (dB)	External Attenuation (dB)	Detector (blank equal peaks [PK] from scan)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.389	12.0	0.	0.0	20.0	AV	32.0	48.1	-16.1
0.204	13.7	0.	0.0	20.0	AV	33.7	53.4	-19.7
1.281	5.8	0.	0 0.4	20.0	AV	26.2	46.0	-19.8
0.274	9.0	0.	0.0	20.0	AV	29.0	51.0	-22.0
0.274	31.9	0.	0.0	20.0	QP	51.9	61.0	-9.1
0.389	28.8	0.	0.0	20.0	QP	48.8	58.1	-9.3
0.204	34.0	0.	0.0	20.0	QP	54.0	63.4	-9.4
1.281	12.4	0.	0 0.4	20.0	QP	32.8	56.0	-23.2

#### NORTHWEST **CONDUCTED EMISSIONS DATA SHEET** df3.01 **EMC** 09/20/2002 Work Order: POLV0019 **EUT:** CopyCAM Date: 10/4/02 13:09 Serial Number: A0200415 Customer: Polyvision Corp. Temperature: 72 Humidity: 42% Attendees: Terry Skelton, Jeff Traw Cust. Ref. No.: Barometric Pressure 30.11 Power: 120 V, 60 Hz Tested by: Greg Kiemel Job Site: EV01 TEST SPECIFICATIONS Specification: CISPR22 Class B Year: 1997 Method: CISPR 22 Year: 1997 SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

### COMMENTS

no hop mid channel.

### **EUT OPERATING MODES**

Modulated by ""FFFF"" at maximum data rate.

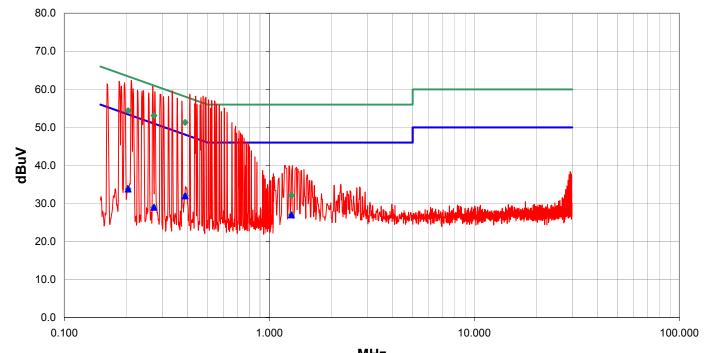
### **DEVIATIONS FROM TEST STANDARD**

No deviations.

RESULTS	Line	Run #
Pass	N	4

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Transducer (dB)	Cable (dB)	External Attenuation (dB)	Detector (blank equal peaks [PK] from scan)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.388	12.0	0.0	0.0	20.0	AV	32.0	48.1	-16.1
1.280	6.6	0.0	0.4	20.0	AV	27.0	46.0	-19.0
0.205	13.8	0.0	0.0	20.0	AV	33.8	53.4	-19.6
0.274	9.0	0.0	0.0	20.0	AV	29.0	51.0	-22.0
0.388	31.3	0.0	0.0	20.0	QP	51.3	58.1	-6.8
0.274	33.1	0.0	0.0	20.0	QP	53.1	61.0	-7.9
0.205	34.4	0.0	0.0	20.0	QP	54.4	63.4	-9.0
1.280	11.7	0.0	0.4	20.0	QP	32.1	56.0	-23.9

NORTHWEST	CONDUCTED EMI	CCIONE DAT	A CHEET	REV				
EMC	CONDUCTED EMI	SSIUNS DAT	4 SHEET	df3.01 09/20/2002				
EUT:	СоруСАМ		Work Order:	POLV0019				
Serial Number:	A0200415	A0200415 Date: 10/4/02 13:24						
Customer:	Polyvision Corp.	Temperature:	72					
Attendees:	Terry Skelton, Jeff Traw	Terry Skelton, Jeff Traw						
Cust. Ref. No.:			Barometric Pressure	30.11				
Tested by:	Greg Kiemel	Power: 120 V, 60 Hz	Job Site:	EV01				
TEST SPECIFICATI	ONS							
Specification:	CISPR22 Class B		Year:	1997				
Method:	CISPR 22		Year:	1997				
SAMPLE CALCULA	ATIONS							

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

### COMMENTS

no hop high channel.

### **EUT OPERATING MODES**

Modulated by ""FFFF"" at maximum data rate.

# DEVIATIONS FROM TEST STANDARD No deviations.

RESULTS L	Line	Run #
Pass	L1	5

Other

Tested By:

80.0 70.0 60.0 50.0 **Ang** 40.0 30.0 20.0 10.0 0.0 0.100 1.000 10.000 100.000

Freq (MHz)	Amplitude (dBuV)	Tra	ansducer (dB)	Cable (dB)	External Attenuation (dB)	Detector (blank equal peaks [PK] from scan)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.386	12.1		0.0	0.0	20.0	AV	32.1	48.1	-16.0
1.280	7.9		0.0	0.4	20.0	AV	28.3	46.0	-17.7
0.205	13.5		0.0	0.0	20.0	AV	33.5	53.4	-19.9
0.273	8.6		0.0	0.0	20.0	AV	28.6	51.0	-22.4
0.273	31.2		0.0	0.0	20.0	QP	51.2	61.0	-9.8
0.205	33.1		0.0	0.0	20.0	QP	53.1	63.4	-10.3
0.386	27.2		0.0	0.0	20.0	QP	47.2	58.1	-10.9
1.280	12.5		0.0	0.4	20.0	QP	32.9	56.0	-23.1

#### NORTHWEST **CONDUCTED EMISSIONS DATA SHEET** df3.0 **EMC** EUT: CopyCAM Work Order: POLV0019 Serial Number: A0200415 Date: 10/4/02 13:42 Customer: Polyvision Corp. Attendees: Terry Skelton, Jeff Traw Temperature: 72 Humidity: 42% Barometric Pressure 30.11 Cust. Ref. No.: Power: 120 V, 60 Hz Tested by: Greg Kiemel Job Site: EV01 TEST SPECIFICATIONS Specification: CISPR22 Class B Year: 1997 Method: CISPR 22 Year: 1997 SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

#### COMMENTS

no hop high channel.

### **EUT OPERATING MODES**

Modulated by ""FFFF"" at maximum data rate.

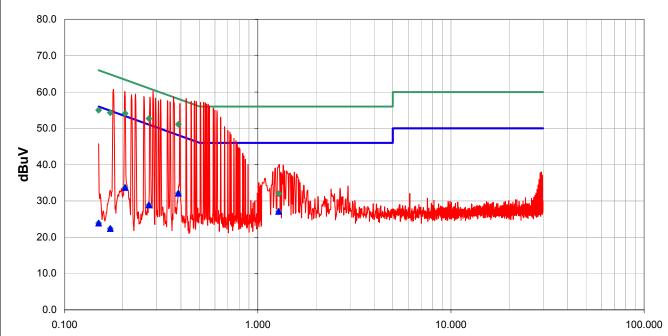
### DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	N	6

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Transducer (dB)	Cable (dB)	External Attenuation (dB)	Detector (blank equal peaks [PK] from scan)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.388	12.1	0.0	0.0	20.0	AV	32.1	48.1	-16.0
1.282	6.7	0.0	0.4	20.0	AV	27.1	46.0	-18.9
0.206	13.7	0.0	0.0	20.0	AV	33.7	53.4	-19.7
0.273	8.9	0.0	0.0	20.0	AV	28.9	51.0	-22.1
0.150	3.9	0.0	0.0	20.0	AV	23.9	56.0	-32.1
0.172	2.4	0.0	0.0	20.0	AV	22.4	54.8	-32.4
0.388	31.1	0.0	0.0	20.0	QP	51.1	58.1	-7.0
0.273	32.7	0.0	0.0	20.0	QP	52.7	61.0	-8.3
0.206	34.1	0.0	0.0	20.0	QP	54.1	63.4	-9.3
0.172	34.3	0.0	0.0	20.0	QP	54.3	64.8	-10.5
0.150	35.0	0.0	0.0	20.0	QP	55.0	66.0	-11.0
1.282	11.6	0.0	0.4	20.0	QP	32.0	56.0	-24.0