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No: EM/2010/A0033C

VERIFICATION OF COMPLIANCE

Product Name : Network Camera
 Brand Name : VIVOTEK
 Model No. : IP8151
 Added Model(s) : N/A
 Applicant : VIVOTEK INC.
 Address of Applicant : 6F, No.192, Lien-Cheng Rd., Chung-Ho City, Taipei County, Taiwan,
 R.O.C.
 Manufacturer : VIVOTEK INC.
 Address of Manufacturer : 5F, No.168, Lien-Cheng Rd., Chung-Ho City, Taipei County, Taiwan,
 R.O.C.
 Based on SGS EMC Test : EM/2010/A0033
 Report Number(s)
 Date of Issue : Dec. 24, 2010
 Applicable Standards : EN55022 : 2006+A1:2007 Class B,
 EN61000-3-2 : 2006+A1:2009+A2:2009, EN61000-3-3 : 2008,
 EN55024 : 1998+A1:2001+A2:2003,
 IEC61000-4-2 : 2008, IEC61000-4-3 : 2006+A1:2007,
 IEC61000-4-4 : 2004, IEC61000-4-5 : 2005, IEC61000-4-6 : 2008,
 IEC61000-4-8 : 2009, IEC61000-4-11 : 2004.
 AS/NZS CISPR 22 : 2006 Class B

Conclusion

Based upon a review of the Technical Construction File, the apparatus is in compliance with below requirements of:

EMC Directive 2004/108/EC

Authorized Signatory:

SGS TAIWAN LTD.
Ion Lin



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TEST REPORT

Test Report No. : EM/2010/A0033

Applicant : VIVOTEK INC.

Address : 6F, No.192, Lien-Cheng Rd., Chung-Ho City, Taipei County, Taiwan, R.O.C.

Manufacturer : VIVOTEK INC.

Address : 5F, No.168, Lien-Cheng Rd., Chung-Ho City, Taipei County, Taiwan, R.O.C.

Equipment Under Test (EUT) :

Name : Network Camera

Brand Name : VIVOTEK

Model No. : IP8151

Added Model(s) : N/A

Standards:

EN55022 : 2006+A1:2007 Class B	EN61000-3-2 : 2006+A1:2009+A2:2009
EN61000-3-3 : 2008	
EN55024 : 1998+A1:2001+A2:2003	IEC61000-4-2 : 2008
IEC61000-4-3 : 2006+A1:2007	IEC61000-4-4 : 2004
IEC61000-4-5 : 2005	IEC61000-4-6 : 2008
IEC61000-4-8 : 2009	IEC61000-4-11 : 2004
AS/NZS CISPR 22 : 2006 Class B	

In the configuration tested, the EUT complied with the standards specified above.

Date of Receipt : Oct. 06, 2010

Date of Test : Oct. 06 ~ Dec. 01, 2010

Date of Issue : Dec. 24, 2010

Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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Test By:

Mark Liu

Date

Dec. 24, 2010

Mark Liu(Engineer)

Prepared By:

Kay Ke

Date

Dec. 24, 2010

Kay Ke(Clerk)

Approved By

Ion Lin

Date

Dec. 24, 2010

Ion Lin(Assistant Manager)

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1. General Description

1.1 General Description of EUT

Name of EUT	: Network Camera
Brand Name	: VIVOTEK
Model No.(s)	: IP8151
Added Model(s)	: N/A
Variant Description:	N/A

1.2 Details of EUT

Power Supply	: Input: AC 100-240V/50-60Hz; Output: DC 12V/1.5A Adaptor No. : 3A-183WP12
Power Cord	: Unshielded
Modes/Function	: 1. Operation AC 230V to AC 24V Mode 2. Operation AC 230V to DC 12V Mode 3. Operation POE Mode

1.3 Description of Support Units

PRODUCT	MANUFACTURER	MODEL NO.	SERIAL NO.
NOTEBOOK	IBM	R400	R8-AZLWT
NOTEBOOK	IBM	R61	L3A9050
LCD TV	KOLIN	KLT-230	C50701429
Earphone/MIC	PHILIPS	SBC HM200	N/A
Adapter (AC 24V Mode)	AQualities	N/A	N/A

1.4 Operation Procedure

1. Set down EUT with support units and turn on the power of all equipment.
2. Pre-test the EUT in all modes by each model, then figure the worst case out.
3. Tests under the normal operation pattern.

1.5 The worst case of the EUT

EUT will be carried out in the worst case as followings:

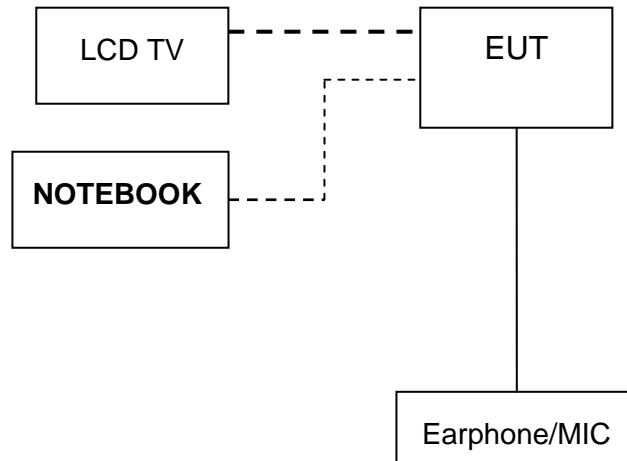
Model No. : IP8151

Mode : 1. Operation AC 230V to AC 24V Mode

1.6 Modification List

No modification by SGS Taiwan Electronics & Communication Laboratory.

1.7 Configuration of Tested System



1.8 Cable List

Cable Type	Length	Shield
Power Cable	1.7m	Non-shielding
Lan Cable	5.2m	Non-shielding

1.9 Summary of Results

Highest Emission					
Standard	Test Type	Result	Phase/Polar.	Frequency(MHz)	Margin(dB)
EN55022 : 2006+A1:2007 Class B AS/NZS CISPR 22 : 2006 Class B	Conducted Emission	Pass	Line	4.5524	-1.51(QP)
			Neutral	4.5524	-4.96(AVG)
	Radiated Emission	Pass	Ver.	168.0000	-2.00(QP)
EN 61000-3-2: 2006+A1:2009 +A2:2009	Harmonic current emissions	Pass	Meet the requirements		
EN 61000-3-3: 2008	Voltage changes, voltage fluctuations & flicker	Pass	Meet the requirements		

Immunity (EN 55024:1998+A1:2001+A2:2003)				
Standard	Test Type	Result	Performance Criteria	Test Judgment
IEC61000-4-2:2008	ESD test	PASS	Criterion B	Meets the requirements of Performance Criterion B
IEC 61000-4-3:2006 +A1:2007	RS test	PASS	Criterion A	Meets the requirements of Performance Criterion A
IEC61000-4-4:2004	EFT Test	PASS	Criterion B	Meets the requirements of Performance Criterion A
IEC61000-4-5:2005	Surge Test	PASS	Criterion B	Meets the requirements of Performance Criterion A
IEC61000-4-6:2008	CS Test	PASS	Criterion A	Meets the requirements of Performance Criterion A
IEC61000-4-8:2009	PMF test	PASS	Criterion A	Meets the requirements of Performance Criterion A
IEC61000-4-11:2004	DIP Test	PASS	Criterion C/C/B	Meets the requirements of Performance Criterion B/B/A

2. Radio Disturbance

EN55022 : 2006+A1:2007 Class B

AS/NZS CISPR 22 : 2006 Class B

2.1 Test Results

EN55022 Class B	Result
Conducted Emission	PASS
Radiated Emission	PASS

2.2 Limit

Maximum permissible level of Line Conducted Emission

FREQUENCY (MHz)	Class A(dBuV)		Class B(dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Note : The lower limit shall apply at the transition frequency.

Maximum permissible level of Common Mode Conducted Emission (Telecommunication Ports)

CLASS A

FREQUENCY (MHz)	Voltage Limit(dBuV)		Current Limit(dBuA)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	97 - 87	84 - 74	53 - 43	40 - 30
0.5 - 30.0	87	74	43	30

CLASS B

FREQUENCY (MHz)	Voltage Limit(dBuV)		Current Limit(dBuA)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	84 - 74	74 - 64	40 - 30	30 - 20
0.5 - 30.0	74	64	30	20

Note : The lower limit shall apply at the transition frequency.

Maximum permissible level of Radiated Emission measured at 10 meter

FREQUENCY (MHz)	Class A(dBuV/m)	Class B(dBuV/m)
	Quasi - peak	Quasi - peak
30 - 230	40	30
230 - 1000	47	37

Note : The lower limit shall apply at the transition frequency.

Limits above 1 GHz**Limits for radiated disturbance of Class A ITE at a measurement distance of 3m**

Frequency range GHz	Average Limit dB(μ V/m)	Peak Limit dB(μ V/m)
1 to 3	56	76
3 to 6	60	80

Note : The lower limit applies at the transition frequency.

Limits for radiated disturbance of Class B ITE at a measurement distance of 3m

Frequency range GHz	Average Limit dB(μ V/m)	Peak Limit dB(μ V/m)
1 to 3	50	70
3 to 6	54	74

Note : The lower limit applies at the transition frequency.

2.3 Methods and Procedures

Standard	Date	Description
EN55022	2006+A1:2007 Class A	Limits and methods of measurement of radio interference characteristics of information technology equipment.

2.4. Test of Conducted Emission & ISN**2.4.1 Test Instruments**

Description & Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
EMI Test Receiver	ESCS 30	828985/004	Sep. 23, 2010	Sep. 22, 2011
Coaxial Cables	WK CE Cable	N/A	Nov. 27, 2010	Nov. 26, 2011
L.I.S.N	NNB-2/16Z	99012	Mar. 30, 2010	Mar. 29, 2011
L.I.S.N	FCC-LISN-50/250-25-2-01	04034	Mar. 30, 2010	Mar. 29, 2011
ISN	FCC-TLISN-T4-02	20606	Jul. 19, 2010	Jul. 18, 2011

2.4.2 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

2.4.3 EUT Operating Condition

Environment :

Temperature	Humidity
23°C	55%RH

Test setup : Please refer to photo of CE, ISN testing set-up

2.4.4 Uncertainty of Conducted Emission

Expanded uncertainty (k=2) of Conducted Emission measurement is 2.26dB.

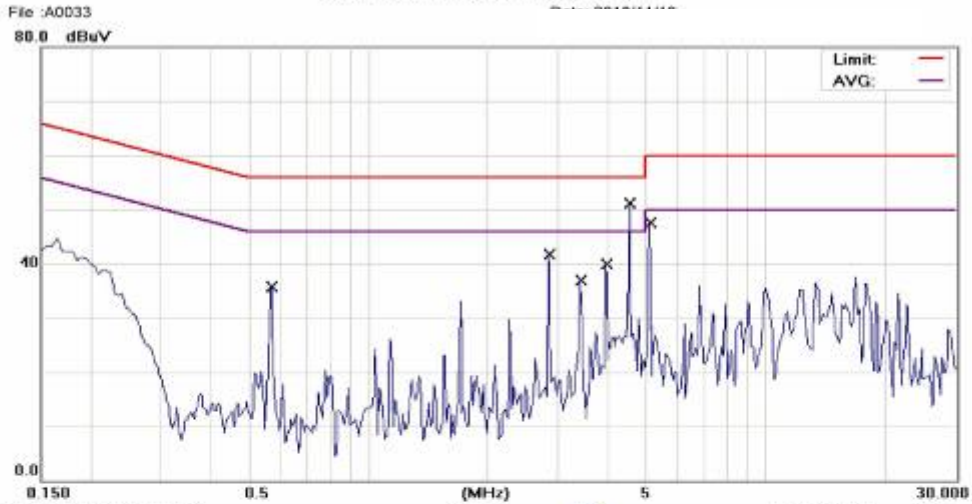
Operation AC 230V to AC 24V Mode

L:



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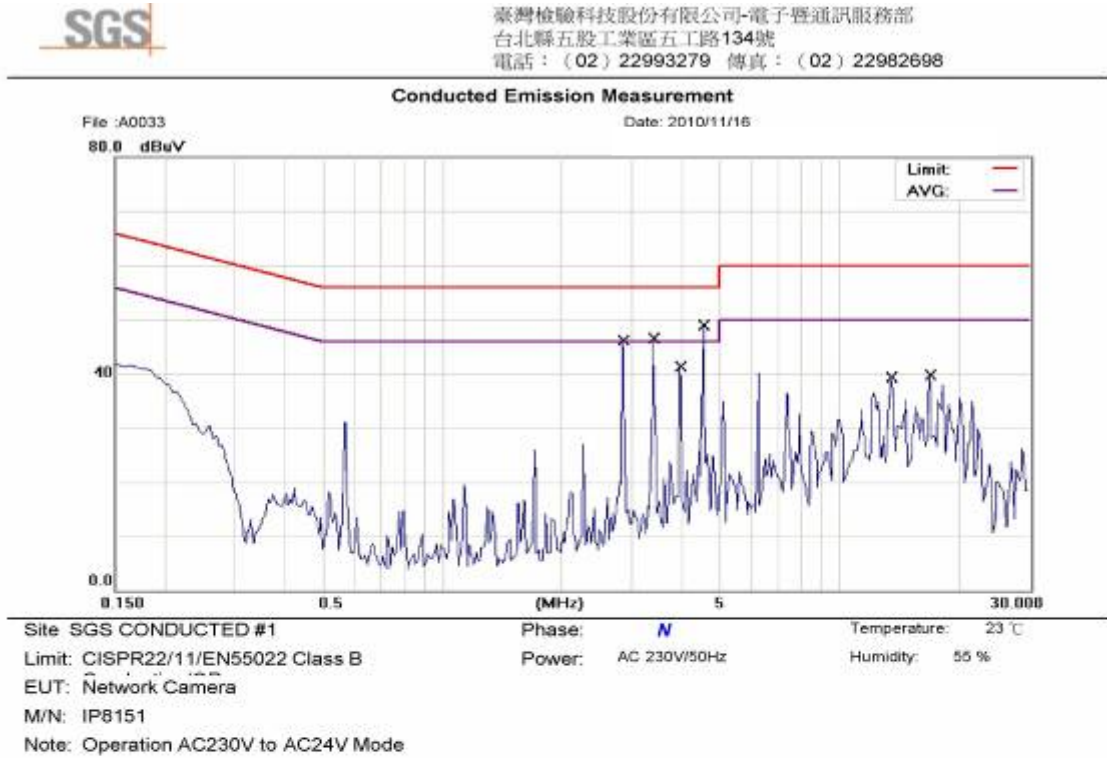
Conducted Emission Measurement



Site: SGS CONDUCTED #1 Phase: **L1** Temperature: 23 °C
 Limit: CISPR22/11/EN55022 Class B Power: AC 230V/50Hz Humidity: 55 %
 EUT: Network Camera
 M/N: IP8151
 Note: Operation AC230V to AC24V Mode

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.5700	35.68	0.12	35.80	56.00	-20.20	QP	
2		2.8500	41.44	0.18	41.62	56.00	-14.38	QP	
3		3.4200	36.64	0.19	36.83	56.00	-19.17	QP	
4		3.9800	40.12	0.20	40.32	56.00	-15.68	QP	
5	*	4.5524	54.28	0.21	54.49	56.00	-1.51	QP	
6		4.5524	43.72	0.21	43.93	46.00	-2.07	AVG	
7		5.1200	47.28	0.23	47.51	60.00	-12.49	QP	

N:



No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		2.8463	47.03	0.18	47.21	56.00	-8.79	QP	
2		2.8463	40.80	0.18	40.98	46.00	-5.02	AVG	
3		3.4147	45.84	0.19	46.03	56.00	-9.97	QP	
4		3.4147	21.40	0.19	21.59	46.00	-24.41	AVG	
5		3.9826	43.31	0.20	43.51	56.00	-12.49	QP	
6		3.9826	40.06	0.20	40.26	46.00	-5.74	AVG	
7		4.5524	47.81	0.21	48.02	56.00	-7.98	QP	
8	*	4.5524	40.83	0.21	41.04	46.00	-4.96	AVG	
9		13.4800	38.89	0.51	39.40	60.00	-20.60	QP	
10		16.9000	39.15	0.47	39.62	60.00	-20.38	QP	

Operation AC 230V to DC 12V Mode

L:



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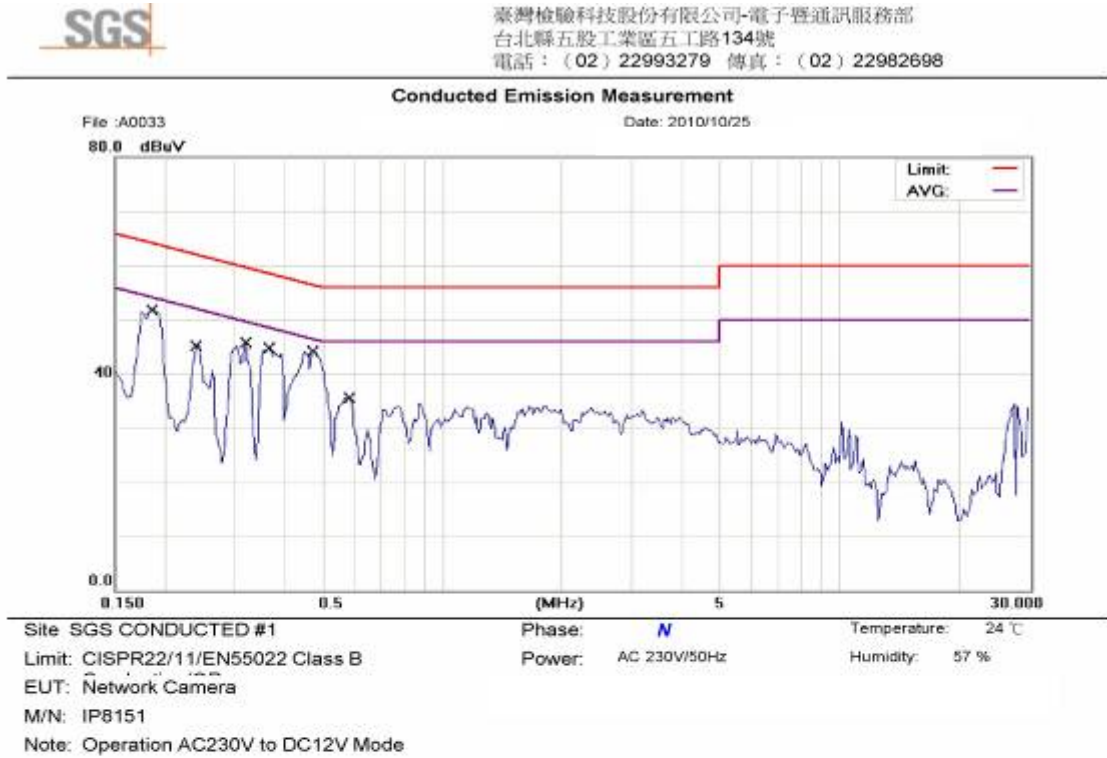
Conducted Emission Measurement



Site: SGS CONDUCTED #1 Phase: L1 Temperature: 24 °C
 Limit: CISPR22/11/EN55022 Class B Power: AC 230V/50Hz Humidity: 57 %
 EUT: Network Camera
 M/N: IP8151
 Note: Operation AC230V to DC12V Mode

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1750	50.76	0.13	50.89	64.72	-13.83	QP	
2		0.2400	43.40	0.12	43.52	62.10	-18.58	QP	
3		0.3850	40.23	0.12	40.35	58.17	-17.82	QP	
4	*	0.4500	44.15	0.12	44.27	56.88	-12.61	QP	
5		0.6000	38.64	0.12	38.76	56.00	-17.24	QP	
6		0.8500	36.56	0.12	36.68	56.00	-19.32	QP	

N:



No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1850	51.58	0.13	51.71	64.26	-12.55	QP	
2		0.2400	45.05	0.13	45.18	62.10	-16.92	QP	
3		0.3200	45.55	0.12	45.67	59.71	-14.04	QP	
4		0.3650	44.49	0.12	44.61	58.61	-14.00	QP	
5	*	0.4700	44.04	0.12	44.16	56.51	-12.35	QP	
6		0.5800	35.46	0.12	35.58	56.00	-20.42	QP	

Operation AC 240V to DC 12V Mode

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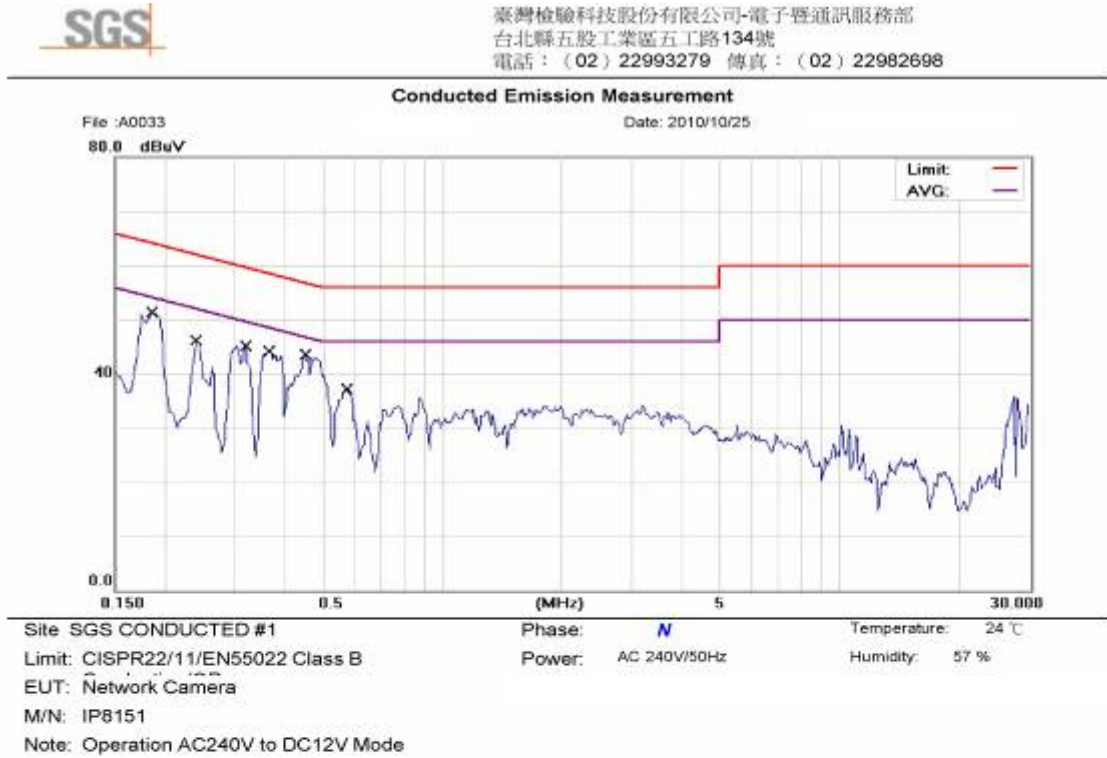
Conducted Emission Measurement



Site SGS CONDUCTED #1 Phase: **L1** Temperature: 24 °C
 Limit: CISPR22/11/EN55022 Class B Power: AC 240V/50Hz Humidity: 57 %
 EUT: Network Camera
 M/N: IP8151
 Note: Operation AC240V to DC12V Mode

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1750	50.76	0.13	50.89	64.72	-13.83	QP	
2		0.2400	42.40	0.12	42.52	62.10	-19.58	QP	
3	*	0.4500	44.15	0.12	44.27	56.88	-12.61	QP	
4		0.5300	39.10	0.12	39.22	56.00	-16.78	QP	
5		0.6000	39.14	0.12	39.26	56.00	-16.74	QP	
6		0.8500	37.06	0.12	37.18	56.00	-18.82	QP	

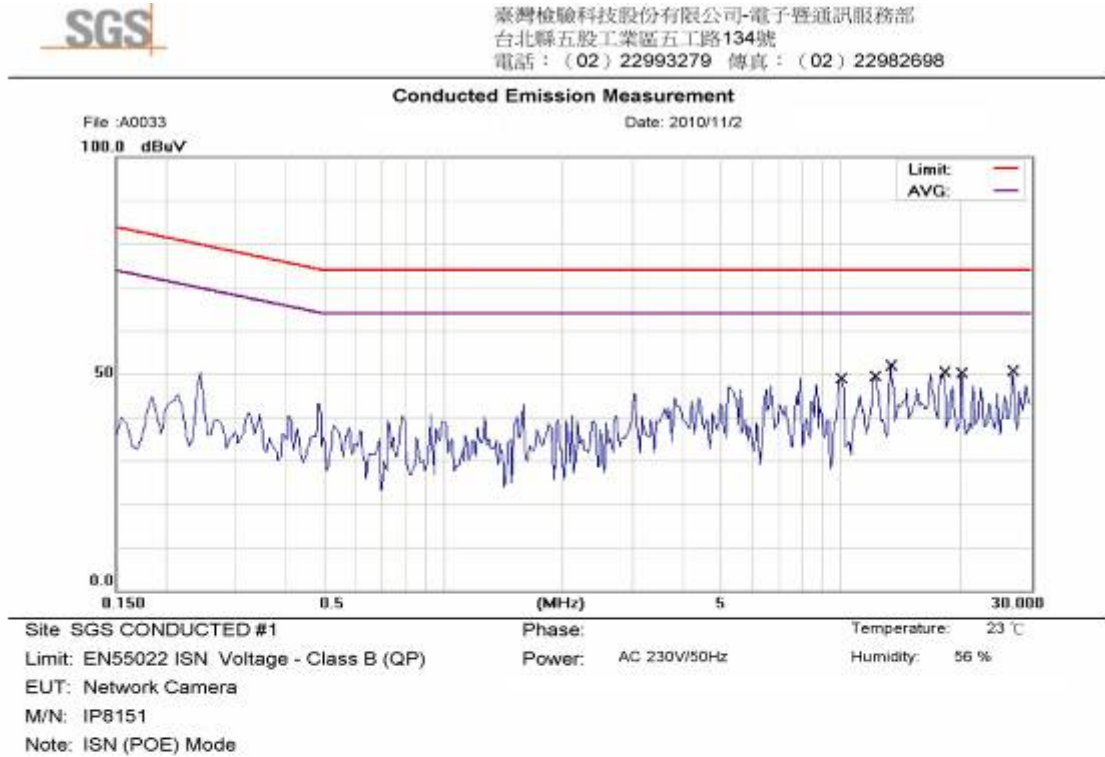
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No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1850	51.08	0.13	51.21	64.26	-13.05	QP	
2		0.2404	46.04	0.13	46.17	62.08	-15.91	QP	
3		0.3200	45.05	0.12	45.17	59.71	-14.54	QP	
4		0.3650	43.99	0.12	44.11	58.61	-14.50	QP	
5		0.4500	43.45	0.12	43.57	56.88	-13.31	QP	
6		0.5762	36.94	0.12	37.06	56.00	-18.94	QP	

2.4.6 Measurement Data(ISN)

Operation POE Mode



No.	Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		10.0600	38.50	10.34	48.84	74.00	-25.16	QP	
2		12.2000	39.14	10.32	49.46	74.00	-24.54	QP	
3	*	13.4200	41.48	10.31	51.79	74.00	-22.21	QP	
4		18.2400	40.19	10.13	50.32	74.00	-23.68	QP	
5		20.2600	40.08	10.03	50.11	74.00	-23.89	QP	
6		27.1600	40.71	10.02	50.73	74.00	-23.27	QP	

Operation POE Mode

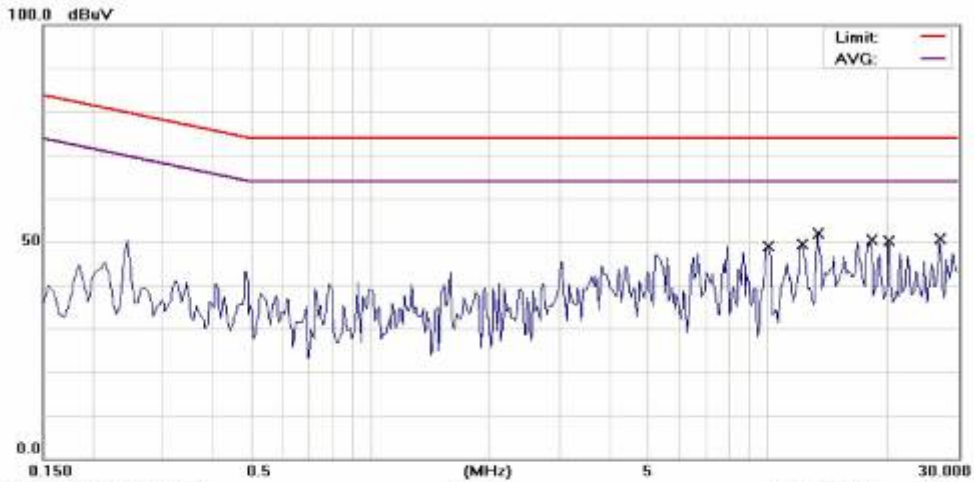


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 台北縣五股工業區五工路134號
 電話：(02) 22993279 傳真：(02) 22982698

Conducted Emission Measurement

File :A0033

Date: 2010/11/2



Site SGS CONDUCTED #1 Phase: Temperature: 23 °C
 Limit: EN55022 ISN Voltage - Class B (QP) Power: AC 240V/50Hz Humidity: 56 %
 EUT: Network Camera
 M/N: IP8151
 Note: ISN (POE) Mode

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		10.0600	38.50	10.34	48.84	74.00	-25.16	QP	
2		12.2000	39.14	10.32	49.46	74.00	-24.54	QP	
3	*	13.4200	41.48	10.31	51.79	74.00	-22.21	QP	
4		18.2400	40.19	10.13	50.32	74.00	-23.68	QP	
5		20.2600	40.08	10.03	50.11	74.00	-23.89	QP	
6		27.1600	40.71	10.02	50.73	74.00	-23.27	QP	

2.5 Test of Radiated Emission

2.5.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	100335	Feb. 05, 2010	Feb. 04, 2011
RF-Amplifier	Agilent	8447D	2944A09469	Nov. 27, 2010	Nov. 26, 2011
Broadband Antenna	SCHWAZBECK	VULB9160	9160-3224	Apr. 21, 2010	Apr. 20, 2011
Coaxial Cables	N/A	OS RE Cable	N/A	Nov. 27, 2010	Nov. 26, 2011
Antenna Master	HD GmbH	MA 240	240/515	N/A	N/A
Turn Table	HD GmbH	DT420	420/542	N/A	N/A
Controller	HD GmbH	HD 100	100/589	N/A	N/A

Above 1G

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
Spectrum Analyzer	ROHDE&SCHWARZ	FSP40	100034	Mar. 30, 2010	Mar. 29, 2011
RF-Amplifier	Agilent	8447D	2944A09469	Nov. 27, 2010	Nov. 26, 2011
Horn Antenna	CHAMPRO	HA1-18GG	SN0805-HA01	Jun. 14, 2010	Jun. 13, 2011
Coaxial Cables	N/A	844 Microwave Cable	N/A	Nov. 27, 2010	Nov. 26, 2011
Antenna Master	HD GmbH	MA 240	240/515	N/A	N/A
Turn Table	HD GmbH	DT420	420/542	N/A	N/A
Controller	HD GmbH	HD 100	100/589	N/A	N/A
Spectrum Analyzer	ROHDE&SCHWARZ	FSP 40	EMC-017 100034	Mar. 30, 2010	Mar. 29, 2011
Horn Antenna	CHAMPRO	HA1-18GG	SN0805-HA02	Jun. 09, 2010	Jun. 08, 2011

2.5.2 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
 No. 29, Pau-Tou-Tsuo Valley, Chia-Pau Tsuen, Linkou Hsiang, Taipei County 244, Taiwan (R.O.C.)

SGS Taiwan LTD. Electronics & Communication Laboratory
 No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

2.5.3 EUT Operating Condition

Environment :

Temperature	Humidity
25°C	52%RH

Test setup : Please refer to photo of RE testing set-up

2.5.4 Uncertainty of Radiated Emission

Expanded uncertainty (k=2) of radiated emission measurement is 3.8dB.

Operation AC 230V to DC 12V Mode
Horizontal polarization

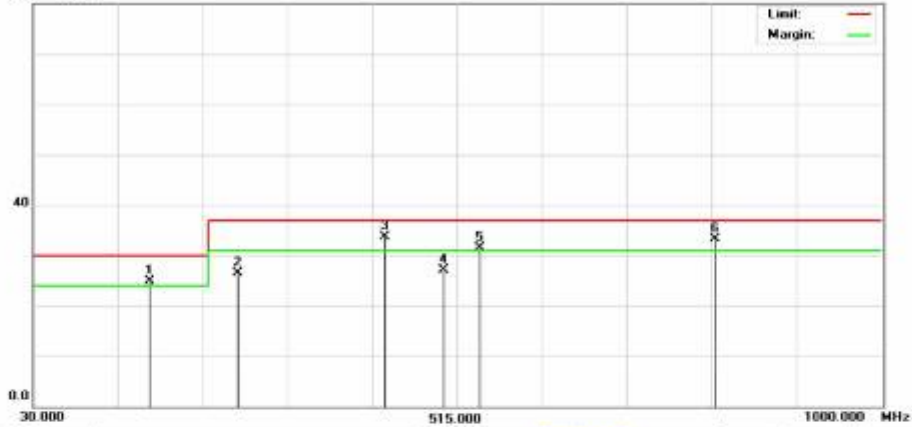


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Address : 台北縣五股工業區五工路 134 號
Tel:02-2299-3279 Fax:02-2298-2698

Radiated Emission Measurement

File: A0033
80.0 dBuV

Date: 2010/10/11



Site : 10M Opensite

Polarization: **Horizontal**

Temperature: 25 °C

Limit: CISPR22/CISPR11/EN55022 Class B 10M

Power: AC 230V/50Hz

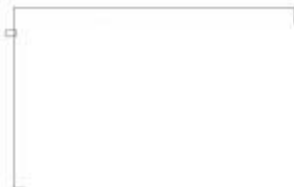
Humidity: 52%

EUT: NETWORKCAMERA

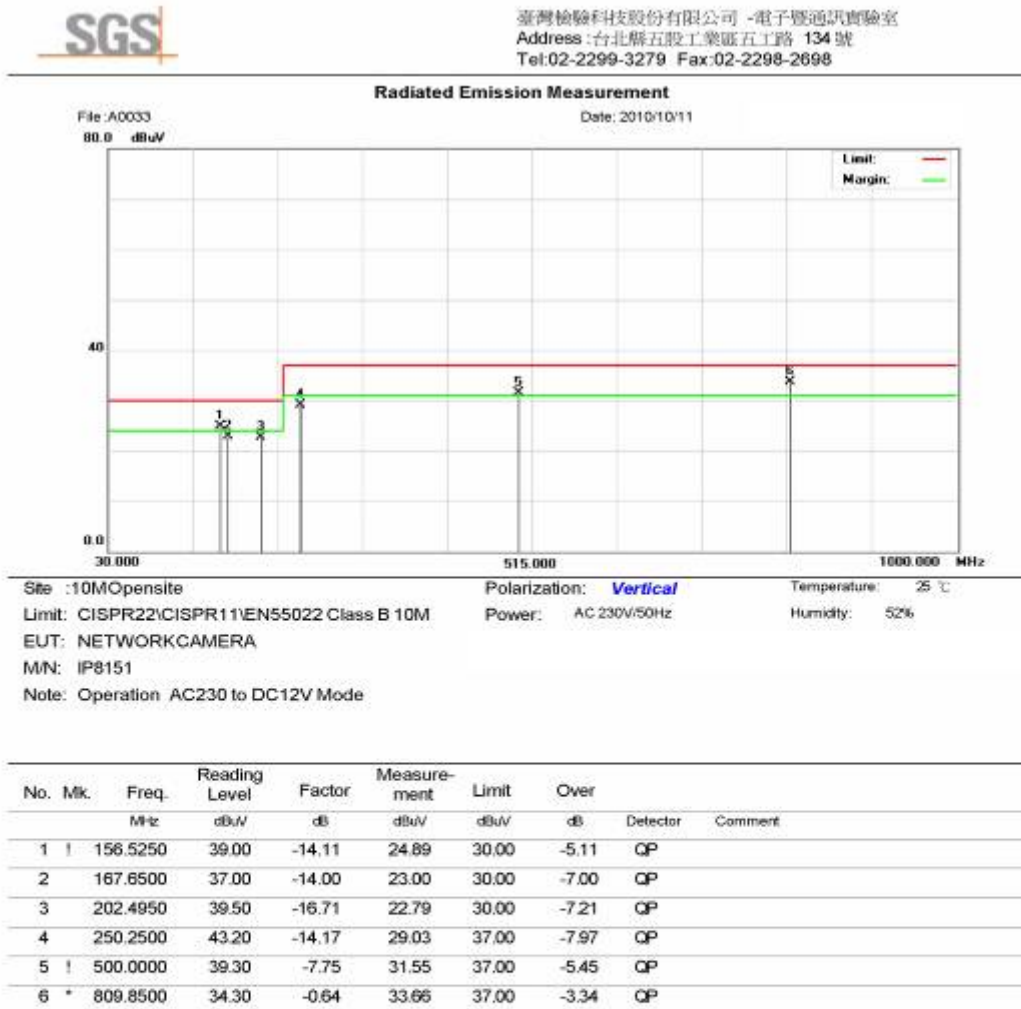
M/N: IP8151

Note: Operation AC230 to DC12V Mode

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	!	162.0000	38.90	-13.99	24.91	30.00	-5.09	QP	
2		264.0000	40.20	-13.66	26.54	37.00	-10.46	QP	
3	*	432.0000	42.70	-9.06	33.64	37.00	-3.36	QP	
4		500.0000	34.90	-7.75	27.15	37.00	-9.85	QP	
5	!	540.3000	38.40	-6.87	31.53	37.00	-5.47	QP	
6	!	810.3000	34.00	-0.63	33.37	37.00	-3.63	QP	



Vertical polarization



File: A0033 Date: 2010/10/11
 Site: 10MOpensite Polarization: Vertical Temperature: 25 °C
 Limit: CISPR22/CISPR11/EN55022 Class B 10M Power: AC 230V/50Hz Humidity: 52%
 EUT: NETWORKCAMERA
 MN: IP8151
 Note: Operation AC230 to DC12V Mode

Operation AC 230V to AC 24V Mode
Horizontal polarization

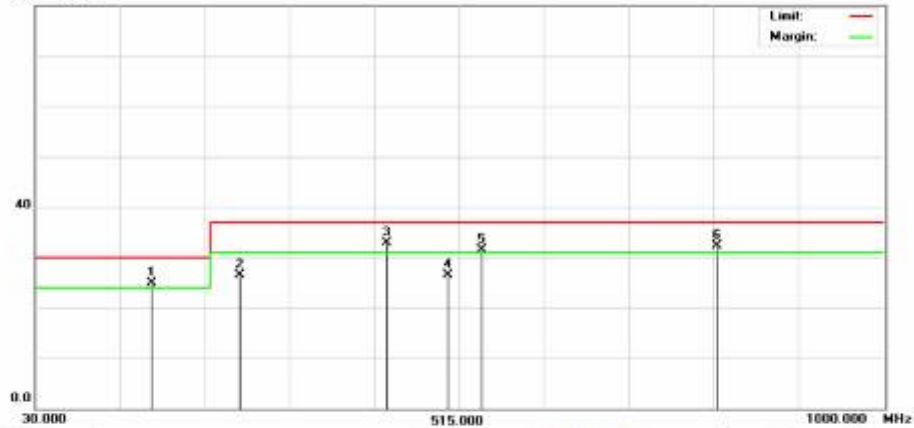


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Radiated Emission Measurement

File : A0033
80.0 dBuV

Date: 2010/10/11



Site : 10M Opensite

Polarization: *Horizontal*

Temperature: 25 °C

Limit: CISPR22/CISPR11/EN55022 Class B 10M

Power: AC 230V/50Hz

Humidity: 52%

EUT: NETWORKCAMERA

MN: IP8151

Note: Operation AC230 to AC24V Mode

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	!	161.6700	38.90	-13.99	24.91	30.00	-5.09	QP	
2		263.5600	40.28	-13.69	26.59	37.00	-10.41	QP	
3	*	432.1300	41.99	-9.05	32.94	37.00	-4.06	QP	
4		501.2000	34.26	-7.72	26.54	37.00	-10.46	QP	
5	!	540.2300	38.40	-6.87	31.53	37.00	-5.47	QP	
6	!	810.7200	32.90	-0.62	32.28	37.00	-4.72	QP	

Vertical polarization



No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	!	155.2000	39.25	-14.15	25.10	30.00	-4.90	QP	
2		167.2000	37.80	-14.00	23.80	30.00	-6.20	QP	
3		202.1600	39.28	-16.72	22.56	30.00	-7.44	QP	
4		250.2700	43.72	-14.17	29.55	37.00	-7.45	QP	
5	!	500.6700	39.83	-7.74	32.09	37.00	-4.91	QP	
6	*	809.9000	34.53	-0.64	33.89	37.00	-3.11	QP	

Operation POE Mode
Horizontal polarization

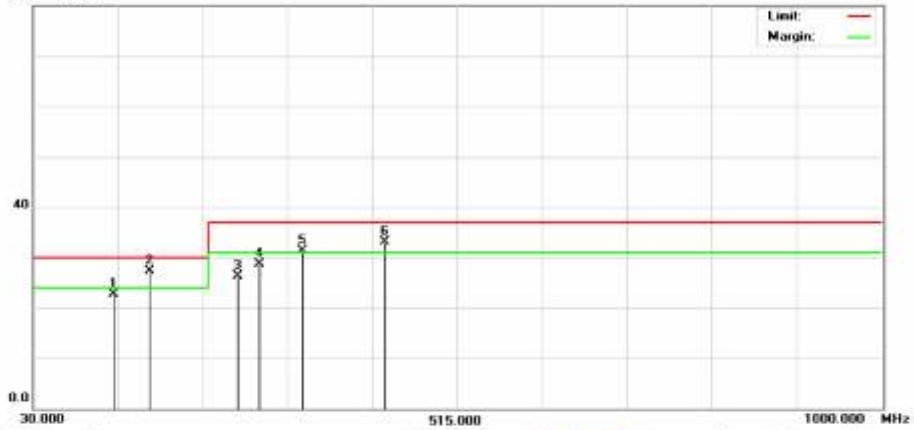


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Radiated Emission Measurement

File: A0033
80.0 dBuV

Date: 2010/10/11



Site : 10MOpensite

Polarization: *Horizontal*

Temperature: 25 °C

Limit: CISPR22/CISPR11/EN55022 Class B 10M

Power: AC 230V/50Hz

Humidity: 52%

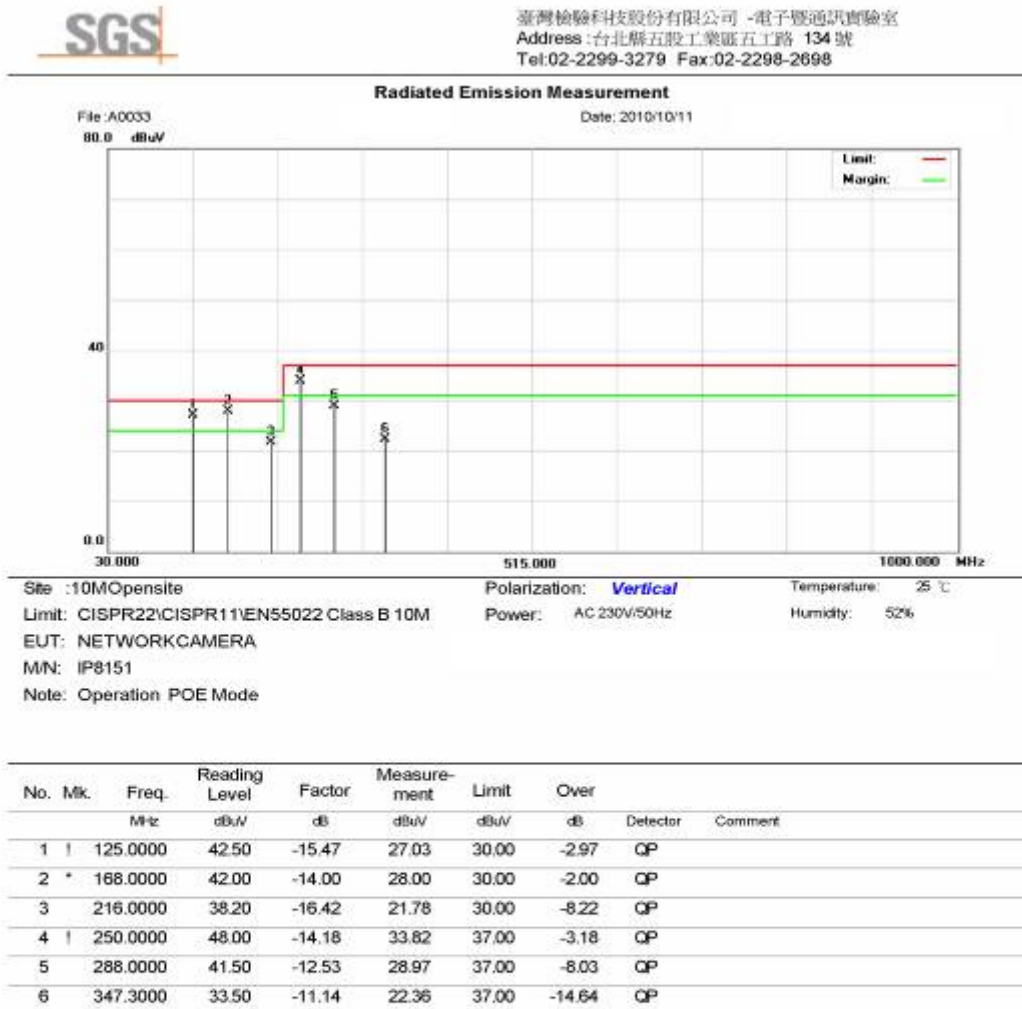
EUT: NETWORKCAMERA

MN: IP8151

Note: Operation POE Mode

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		120.0000	38.60	-15.82	22.78	30.00	-7.22	QP	
2	*	162.1100	41.23	-13.99	27.24	30.00	-2.76	QP	
3		264.0000	40.00	-13.66	26.34	37.00	-10.66	QP	
4		288.0000	41.20	-12.53	28.67	37.00	-8.33	QP	
5	!	336.0000	42.60	-11.38	31.22	37.00	-5.78	QP	
6	!	432.0000	42.20	-9.06	33.14	37.00	-3.86	QP	

Vertical polarization



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Radiated Emission Measurement

File: A0033
 80.0 dBuV

Date: 2010/10/11

Site : 10MOpensite
 Limit: CISPR22/CISPR11/EN55022 Class B 10M
 EUT: NETWORKCAMERA
 MN: IP8151
 Note: Operation POE Mode

Polarization: **Vertical**
 Power: AC 230V/50Hz
 Temperature: 25 °C
 Humidity: 52%

Operation AC 240V to DC 12V Mode
Horizontal polarization

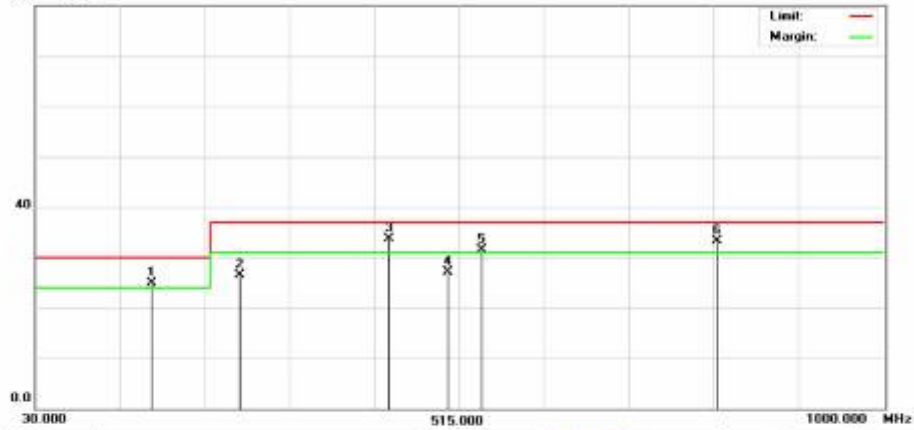


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Radiated Emission Measurement

File : A0033
80.0 dBuV

Date: 2010/10/11



Site : 10M Opensite

Polarization: *Horizontal*

Temperature: 25 °C

Limit: CISPR22/CISPR11/EN55022 Class B 10M

Power: AC 240V/50Hz

Humidity: 52%

EUT: NETWORKCAMERA

MN: IP8151

Note: Operation AC240 to DC12V Mode

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	!	162.7000	38.91	-14.00	24.91	30.00	-5.09	QP	
2		264.6100	40.17	-13.63	26.54	37.00	-10.46	QP	
3	*	432.7200	42.67	-9.03	33.64	37.00	-3.36	QP	
4		500.6200	34.89	-7.74	27.15	37.00	-9.85	QP	
5	!	540.8400	38.39	-6.86	31.53	37.00	-5.47	QP	
6	!	810.6400	33.99	-0.62	33.37	37.00	-3.63	QP	

Vertical polarization



No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	!	156.1000	39.01	-14.12	24.89	30.00	-5.11	QP	
2		167.5000	37.00	-14.00	23.00	30.00	-7.00	QP	
3		202.2000	39.51	-16.72	22.79	30.00	-7.21	QP	
4		250.4700	43.20	-14.17	29.03	37.00	-7.97	QP	
5	!	500.5000	39.29	-7.74	31.55	37.00	-5.45	QP	
6	*	809.2600	34.31	-0.65	33.66	37.00	-3.34	QP	

Operation POE Mode
Horizontal polarization

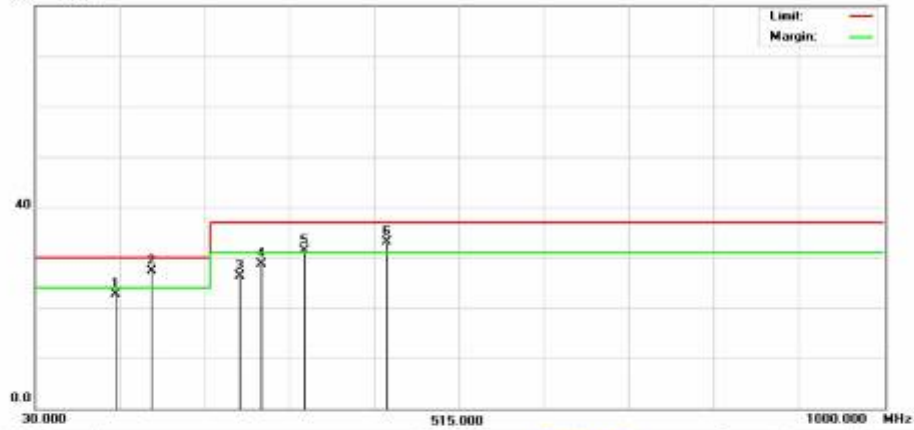


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Radiated Emission Measurement

File :A0033
80.0 dBuV

Date: 2010/10/11



Site :10MOpensite

Polarization: *Horizontal*

Temperature: 25 °C

Limit: CISPR22/CISPR11/EN55022 Class B 10M

Power: AC 240V/50Hz

Humidity: 52%

EUT: NETWORKCAMERA

MN: IP8151

Note: Operation POE Mode

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		120.0000	38.60	-15.82	22.78	30.00	-7.22	QP	
2	*	162.1100	41.23	-13.99	27.24	30.00	-2.76	QP	
3		264.0000	40.00	-13.66	26.34	37.00	-10.66	QP	
4		288.0000	41.20	-12.53	28.67	37.00	-8.33	QP	
5	!	336.0000	42.60	-11.38	31.22	37.00	-5.78	QP	
6	!	432.0000	42.20	-9.06	33.14	37.00	-3.86	QP	

Vertical polarization



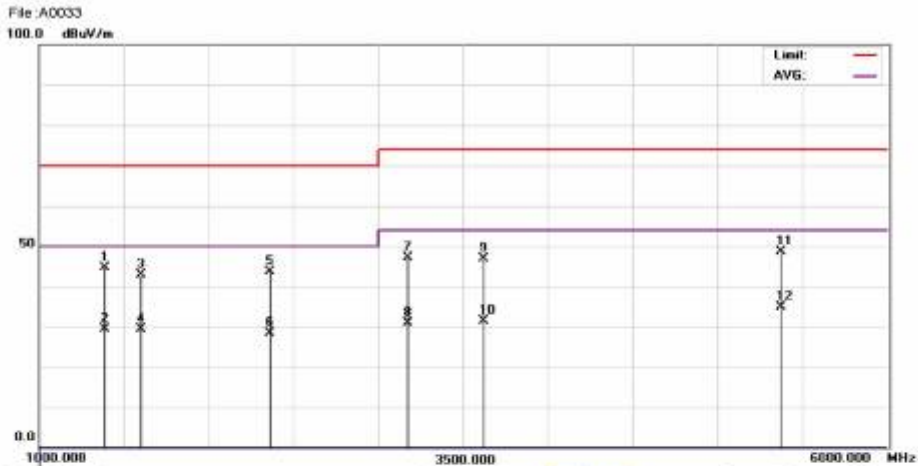
No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	!	125.0000	42.50	-15.47	27.03	30.00	-2.97	QP	
2	*	168.0000	42.00	-14.00	28.00	30.00	-2.00	QP	
3		216.0000	38.20	-16.42	21.78	30.00	-8.22	QP	
4	!	250.0000	48.00	-14.18	33.82	37.00	-3.18	QP	
5	!	288.0000	41.50	-12.53	28.97	37.00	-8.03	QP	
6		347.3000	33.50	-11.14	22.36	37.00	-14.64	QP	

Above 1G
 Operation AC 230V to DC 12V Mode
 Horizontal polarization



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Radiated Emission Measurement

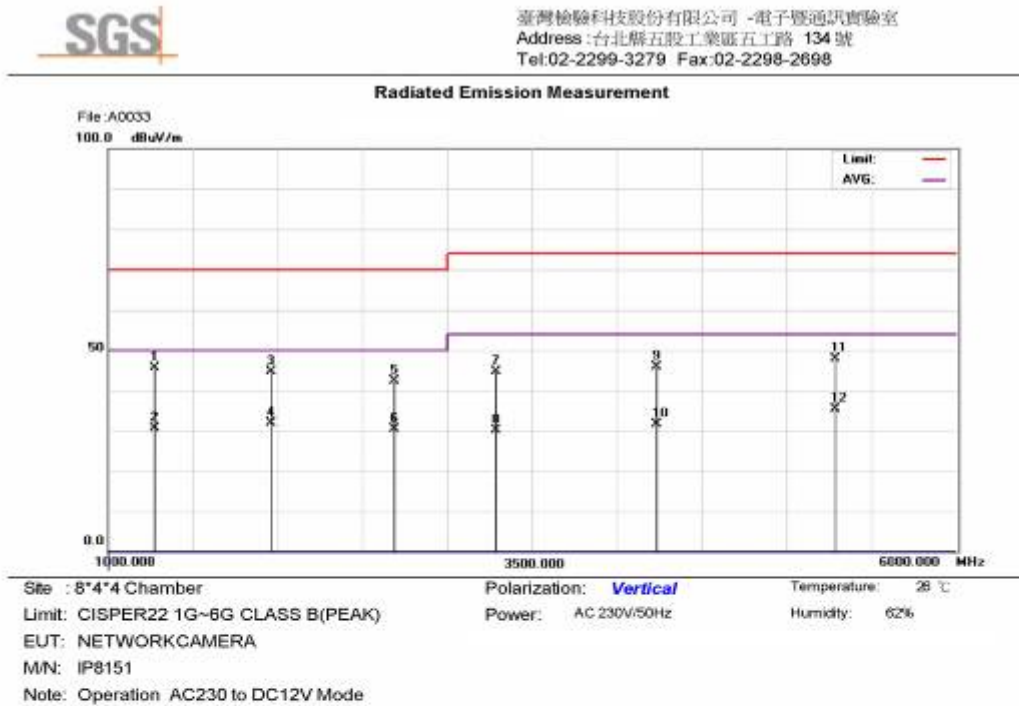


Site : 8'4" Chamber
 Limit: CISPER22 1G-6G CLASS B(PEAK)
 EUT: NETWORKCAMERA
 MN: IP8151
 Note: Operation AC230 to DC12V Mode

Polarization: *Horizontal*
 Power: AC 230V/50Hz
 Temperature: 28 °C
 Humidity: 62%

No.	Mk.	Freq. MHz	Reading Level dBW	Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		1385.200	48.30	-3.75	44.55	70.00	-25.45	peak	
2		1385.200	33.16	-3.75	29.41	50.00	-20.59	AVG	
3		1588.500	45.23	-2.33	42.90	70.00	-27.10	peak	
4		1588.500	31.64	-2.33	29.31	50.00	-20.69	AVG	
5		2350.600	42.66	0.94	43.60	70.00	-26.40	peak	
6		2350.600	27.46	0.94	28.40	50.00	-21.60	AVG	
7		3173.700	43.26	3.76	47.02	74.00	-26.98	peak	
8		3173.700	27.16	3.76	30.92	54.00	-23.08	AVG	
9		3620.500	41.84	5.06	46.90	74.00	-27.10	peak	
10		3620.500	26.43	5.06	31.49	54.00	-22.51	AVG	
11		5372.400	39.16	9.39	48.55	74.00	-25.45	peak	
12	*	5372.400	25.43	9.39	34.82	54.00	-19.18	AVG	

Vertical polarization



No. Mk.	Freq. MHz	Reading Level dBW	Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	1270.230	50.36	-4.66	45.70	70.00	-24.30	peak	
2	1270.230	35.35	-4.66	30.69	50.00	-19.31	AVG	
3	1960.200	44.91	-0.24	44.67	70.00	-25.33	peak	
4 *	1960.200	32.18	-0.24	31.94	50.00	-18.06	AVG	
5	2686.250	40.49	1.95	42.44	70.00	-27.56	peak	
6	2686.250	28.32	1.95	30.27	50.00	-19.73	AVG	
7	3277.500	40.41	4.13	44.54	74.00	-29.46	peak	
8	3277.500	25.88	4.13	30.01	54.00	-23.99	AVG	
9	4230.300	39.53	6.35	45.88	74.00	-28.12	peak	
10	4230.300	25.28	6.35	31.63	54.00	-22.37	AVG	
11	5280.100	38.56	9.24	47.80	74.00	-26.20	peak	
12	5280.100	26.13	9.24	35.37	54.00	-18.63	AVG	

3.Harmonics

EN61000-3-2:2006+A1:2009+A2:2009

3.1 Test Results

EN61000-3-2:2006+A1:2009+A2:2009	PASS
----------------------------------	-------------

3.2 Methods and Procedures

Standard	Date	Description
EN61000-3-2	2006+A1:2009 +A2:2009	Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)

3.3 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
Power Analyzer	EMC Partner	HAR1000-1P	151	Jun. 08, 2009	Jun. 07, 2010

3.4 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

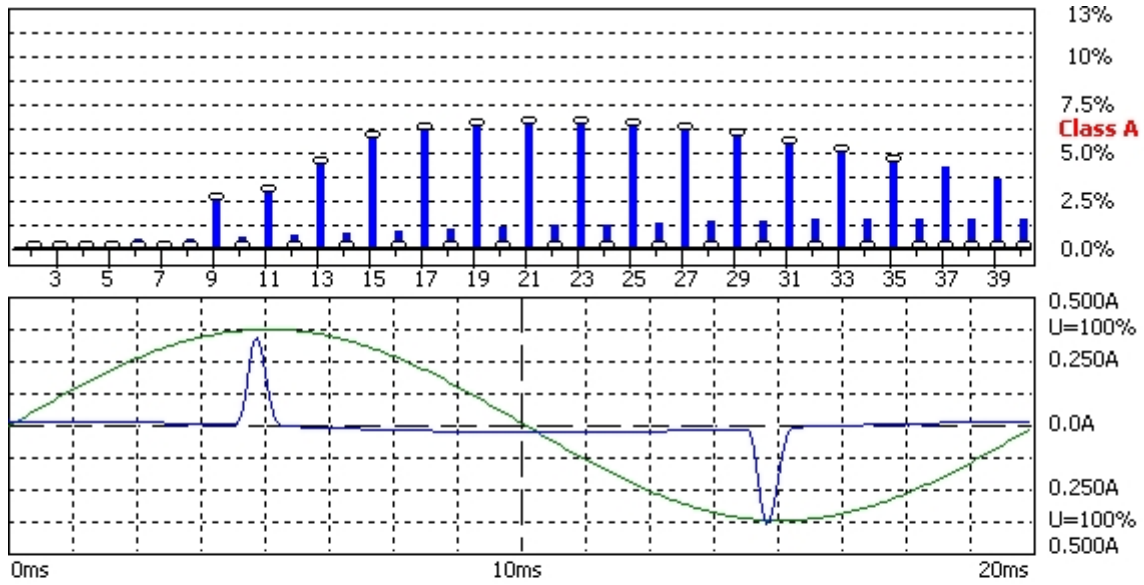
3.5 EUT Operating Condition

Environment :

Temperature	Humidity
28°C	57%RH

Test setup : Please refer to photo of HARMONIC testing set-up

3.6 Measurement Data (1)



Harmonic Emission - IEC 61000-3-2, EN 61000-3-2, (EN60555-2)

2010/11/1 上午 11:12

Urms = 229.9 V P = 5.362 W THC = 0.064 A
 Irms = 0.067 A pf = 0.350

Range: 0.5 A
 V-nom: 230 V
 TestTime: 3 min (100%)

Test completed, Result: PASSED

Measurement Data (2)

Urms =	229.9V	Freq =	49.987	Range:	0.5 A		
Irms =	0.067A	Ipk =	0.395A	cf =	5.930		
P =	5.362W	S =	15.32VA	pf =	0.350		
THDi =	91.4 %	THDu =	0.10 %	Class A			
Test - Time : 3min (100 %)							
Test completed, Result: PASSED							
Order	Freq. [Hz]	Iavg [A]	Iavg%L [%]	Imax [A]	Imax%L [%]	Limit [A]	Status
1	50	0.0283		0.0285			
2	100	0.0000	0.0000	0.0016	0.1498	1.0800	
3	150	0.0209	0.9093	0.0211	0.9155	2.3000	
4	200	0.0000	0.0000	0.0016	0.3761	0.4300	
5	250	0.0207	1.8172	0.0208	1.8284	1.1400	
6	300	0.0000	0.0000	0.0016	0.5391	0.3000	
7	350	0.0203	2.6375	0.0204	2.6515	0.7700	
8	400	0.0000	0.0000	0.0016	0.7165	0.2300	
9	450	0.0198	4.9411	0.0199	4.9667	0.4000	
10	500	0.0000	0.0000	0.0016	0.8956	0.1840	
11	550	0.0191	5.7753	0.0192	5.8076	0.3300	
12	600	0.0000	0.0000	0.0017	1.0947	0.1533	
13	650	0.0182	8.6837	0.0183	8.7193	0.2100	
14	700	0.0000	0.0000	0.0017	1.3003	0.1314	
15	750	0.0173	11.528	0.0174	11.576	0.1500	
16	800	0.0000	0.0000	0.0017	1.4861	0.1150	
17	850	0.0163	12.281	0.0163	12.336	0.1324	
18	900	0.0000	0.0000	0.0017	1.6718	0.1022	
19	950	0.0151	12.789	0.0152	12.834	0.1184	
20	1000	0.0000	0.0000	0.0017	1.8576	0.0920	
21	1050	0.0140	13.044	0.0140	13.102	0.1071	
22	1100	0.0000	0.0000	0.0017	2.0434	0.0836	
23	1150	0.0128	13.058	0.0128	13.102	0.0978	
24	1200	0.0000	0.0000	0.0017	2.1893	0.0767	
25	1250	0.0115	12.833	0.0116	12.885	0.0900	

26	1300	0.0000	0.0000	0.0016	2.3286	0.0708
27	1350	0.0103	12.398	0.0104	12.488	0.0833
28	1400	0.0000	0.0000	0.0016	2.4613	0.0657
29	1450	0.0091	11.762	0.0092	11.839	0.0776
30	1500	0.0000	0.0000	0.0016	2.5874	0.0613
31	1550	0.0080	10.978	0.0080	11.058	0.0726
32	1600	0.0000	0.0000	0.0015	2.6537	0.0575
33	1650	0.0069	10.051	0.0069	10.160	0.0682
34	1700	0.0000	0.0000	0.0015	2.7068	0.0541
35	1750	0.0058	9.0412	0.0059	9.1621	0.0643
36	1800	0.0000	0.0000	0.0014	2.7466	0.0511
37	1850	0.0000	0.0000	0.0049	8.0797	0.0608
38	1900	0.0000	0.0000	0.0013	2.7731	0.0484
39	1950	0.0000	0.0000	0.0040	6.9824	0.0577
40	2000	0.0000	0.0000	0.0013	2.7864	0.0460

4.Flicker

EN61000-3-3:2008

4.1 Test Results

EN61000-3-3:2008	PASS
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4.2 Methods and Procedures

Standard	Date	Description
EN61000-3-3	2008	Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection

4.3 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
Power Analyzer	EMC Partner	HAR1000-1P	151	Jun. 08, 2009	Jun. 07, 2010

4.4 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
 No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

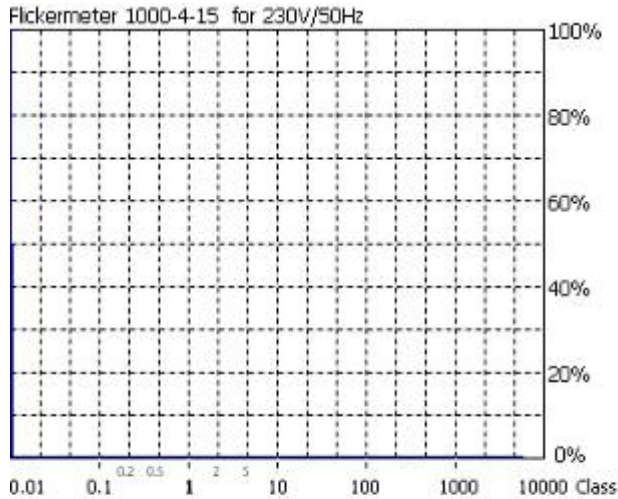
4.5 EUT Operating Condition

Environment :

Temperature	Humidity
28°C	57%RH

Test setup : Please refer to photo of FLICKER testing set-up

4.6 Measurement Data(1)



Actual Flicker (Fli): 0.00
Short-term Flicker (Pst): 0.07
Limit (Pst): 1.00
Long-term Flicker (Plt): 0.07
Limit (Plt): 0.65
Maximum Relative Volt. Change (dmax): 0.00%
Limit (dmax): 4.00%
Relative Steady-state Voltage Change (dc): 0.00%
Limit (dc): 3.30%
Maximum Interval exceeding 3.30% (dt): 0.00ms
Limit (dt>Lim): 500ms

Flicker Emission - IEC 61000-3-3 , EN 61000-3-3 , (EN60555-3)

Urms = 229.9 V P = 5.350 W
Irms = 0.064 A pf = 0.365

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Range: 0.5 A
V-nom: 230 V
TestTime: 10 min (100%)

Test completed, Result: PASSED

5.IMMUNITY

EN55024:1998+A1:2001+A2:2003

5.1 Test Results

Test Standard	Performance Criteria	Result
IEC61000-4-2:2008	B	PASS
IEC61000-4-3:2006+A1:2007	A	PASS
IEC61000-4-4:2004	B	PASS
IEC61000-4-5:2005	B	PASS
IEC61000-4-6:2008	A	PASS
IEC61000-4-8:2009	A	PASS
IEC61000-4-11:2004	C/C/B	PASS

5.2 Performance Criteria Description

Criterion A - The apparatus shall continue to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

Criterion B - The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

Criterion C - Temporary loss of function is allowed, provided the function is self recoverable or can be restored by the operation of the controls.

5.3 Test of IEC61000-4-2

5.3.1 Methods and Procedures

Standard	Date	Description
IEC61000-4-2	2008	Electrostatic Discharge (ESD)

5.3.2 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
ESD Simulator	Schaffner	NSG435	6169	Mar. 05, 2010	Mar. 04, 2011
HCP	N/A	1.6 x 0.8 m	N/A	N/A	N/A
VCP	N/A	0.5 x 0.5 m	N/A	N/A	N/A
Ground Reference Plane	N/A	6.5 x 3.5 m	N/A	N/A	N/A

5.3.3 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
 No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

5.3.4 EUT Operating Condition

Environment :

Temperature	Humidity
26°C	48%RH

Test setup : Please refer to photo of ESD testing set-up

5.4 Test of IEC61000-4-3**5.4.1 Methods and Procedures**

Standard	Date	Description
IEC61000-4-3	2006+A1:2007	Radio-Frequency Electromagnetic Field Susceptibility Test, RS

5.4.2 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
RS Test Site	Chance Most	8*4*4 Chamber	N/A	Apr. 09, 2010	Apr. 08, 2011
Signal Generator	Agilent	E4438C	MY45093613	May. 21, 2010	May. 20, 2011
Power Amplifier(200-1000MHz)	OPHIR	5127FE	1050	N/A	N/A
Power Amplifier(800-2500MHz)	FRANKONIA	FLG-50B	1011	N/A	N/A
Power Amplifier(1000-3000MHz)	OPHIR	3814FE	N/A	N/A	N/A
Relay Switching Unit	FRANKONIA	RSU-3203	113A3122	N/A	N/A
Remote RF Switch	Audix	r2S1216	2008040801	N/A	N/A
Turn Table	Chance Most	N/A	N/A	N/A	N/A
Antenna Tower	Chance Most	N/A	N/A	N/A	N/A
Controller	Chance Most	886	N/A	N/A	N/A
Log-Per Broad band Antenna	Schwarzbeck	VUSLP9111E	N/A	N/A	N/A
Strength Field Meter	Wandel & Goltermann	EMR-30	M-0006	Apr. 10, 2010	Apr. 09, 2011

5.4.3 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
 No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

5.4.4 EUT Operating Condition

Environment :

Temperature	Humidity
26°C	53%RH

Test setup : Please refer to photo of RS testing set-up

5.4.5 Results of Radiated Radio Frequency Electromagnetic (RS)

Basic Standard : IEC61000-4-3
 Frequency range : 80 MHz - 1000 MHz
 Field strength : 3 V/m
 Modulation : 80% AM (1KHz)
 Frequency step : 1 % of fundamental
 Polarity of Antenna : Horizontal and Vertical
 Dwell Time : 3 seconds
 Test distance : 3 m

No.	Frequency (MHz)	Antenna Orientation	Observation	EUT Orientation
1	80 - 1000	Vertical/Horizontal	A	0 degree
2	80 - 1000	Vertical/Horizontal	A	90 degree
3	80 - 1000	Vertical/Horizontal	A	180 degree
4	80 - 1000	Vertical/Horizontal	A	270 degree

Remark: A : No degradation of performance or loss of function.

N/A : Not Applicable.

5.5 Test of IEC61000-4-4

5.5.1 Methods and Procedures

Standard	Date	Description
IEC61000-4-4	2004	Electrical fast transient/burst requirements

5.5.2 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
EMS Multi-Tester	EMC Partner	TRANSIENT 2000	648	Apr. 22, 2010	Apr. 21, 2011
Clamp	EMC Partner	CN-EFT1000	469	N/A	N/A

5.5.3 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
 No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

5.5.4 EUT Operating Condition

Environment :

Temperature	Humidity
26°C	53%RH

Test setup : Please refer to photo of EFT testing set-up

5.5.5 Results of Electrical Fast Transient (EFT)

Basic Standard : IEC61000-4-4
 Test Voltage : AC Input/Output : ± 1 Kv
 Signal/Comm. : ± 0.5 Kv
 Polarity : Positive/Negative
 Impulse Frequency : 5 kHz
 Tr/Tn : 5/50ns
 Burst : 15ms/300ms

Observation :

Test Point	Polarity	Test Level (Kv)	Results
L	+/-	1	A
N	+/-	1	A
L-N	+/-	1	A
Signal/Comm.	+/-	0.5	A

Remark: A : No degradation of performance or loss of function.
 N/A : Not Applicable.

5.6 Test of IEC61000-4-5

5.6.1 Methods and Procedures

Standard	Date	Description
IEC61000-4-5	2005	Surge immunity test

5.6.2 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
EMS Multi-Tester	EMC Partner	TRANSIENT 2000	648	Apr. 22, 2010	Apr. 21, 2011
Universal Surge CDN	EMC Partner	CDN-UTP	015	Apr. 22, 2010	Apr. 21, 2011

5.6.3 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
 No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

5.6.4 EUT Operating Condition

Environment :

Temperature	Humidity
26°C	55%RH

Test setup : Please refer to photo of SURGE testing set-up

5.6.5 Results of Surge Test

Test Rate : 1 pulse every minute
 No. of Tests : 5 positive and 5 negative pulses
 Waveform : 1.2/50µs (8/20µs)

Observation Description

AC Power line & Signal line:

Test Point	Phase Angle (degree)	Polarity (+/-)	Test Level (kV)	Observation
L – N	0, 90, 180, 270	+/-	1	A
L – PE	0, 90, 180, 270	+/-	2	N/A
N – PE	0, 90, 180, 270	+/-	2	N/A

Remark: A : No degradation of performance or loss of function.

N/A : Not Applicable.

Test Rate : 1 pulse every minute
 No. of Tests : 5 positive and 5 negative pulses
 Waveform : 10/700µs

Observation Description

Telecommunication line:

Test Point	Phase Angle (degree)	Polarity (+/-)	Test Level (kV)	Observation
LAN	N/A	+/-	1	A

Remark: A : No degradation of performance or loss of function.

N/A : Not Applicable.

5.7 Test of IEC61000-4-6

5.7.1 Methods and Procedures

Standard	Date	Description
IEC61000-4-6	2008	Immunity to conducted disturbances, induced by radio-frequency fields.

5.7.2 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
CS Test Site	N/A	N/A	N/A	Apr. 09, 2010	Apr. 08, 2011
Signal Generator	ROHDE&SCHWARZ	SMY01	844146/016	Dec. 29, 2009	Dec. 28, 2010
RF Power Amplifier	Kalmus	116FC-CE	8380-1	N/A	N/A
6dB-PowerAttenuator	Bird	25-A-MFN-06	9731	N/A	N/A
Coaxial Cables	N/A	No. 15-17, 21-23	N/A	N/A	N/A
CDN (2 Pin)	COMTEST	4412-16	9743	Mar. 04, 2010	Mar. 03, 2011
CDN (3 Pin)	FRANKONIA	M2+M3	A3011070	Feb. 12, 2010	Feb. 11, 2011
EM Injection Clamp	FCC	F-203I-23MM	479	Sep. 01, 2010	Aug. 31, 2011

5.7.3 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
 No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

5.7.4 EUT Operating Condition

Environment :

Temperature	Humidity
26°C	53%RH

Test setup : Please refer to photo of CS testing set-up

5.7.5 Results of Immunity to Conducted Disturbances (CS)

Basic Standard : IEC61000-4-6
 Frequency range : 0.15 MHz - 80 MHz
 Field strength : 3 V/rms
 Modulation : 80% AM, 1 kHz Sinewave
 Frequency step : 1 % of fundamental
 Dwell Time : 3 seconds
 Coupling Method : CDN 2 Lines/Clamp

Cable Description	Frequency (MHz)	Observation
AC input	0.15 – 80	A

Signal Ports

Cable Description	Frequency (MHz)	Observation
Signal/Comm.	0.15 – 80	A

Remark: A : No degradation of performance or loss of function.

N/A : Not Applicable.

5.8 Test of IEC61000-4-8**5.8.1 Methods and Procedures**

Standard	Date	Description
IEC61000-4-8	2009	Power Frequency Magnetic Field Immunity Test

5.8.2 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
EMS Multi-Tester	EMC Partner	Transient 2000	648	Apr. 22, 2010	Apr. 21, 2011
PMF Antenna	EMC Partner	MF-1000	MF-1000-2 -07	Apr. 22, 2010	Apr. 21, 2011

5.8.3 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

5.8.4 EUT Operating Condition

Environment :

Temperature	Humidity
26°C	53%RH

Test setup: Please refer to photo of PMF testing set-up

5.8.5 Result of Immunity to power Frequency Magnetic

Basic Standard: IEC61000-4-8 : 2009
Power Frequency:50 Hz
Magnetic Field: 1 A/m(r.m.s)
Observation: A

Remark: A : No degradation of performance or loss of function.

N/A : Not Applicable.

5.9 Test of IEC61000-4-11**5.9.1 Methods and Procedures**

Standard	Date	Description
IEC61000-4-11	2004	Voltage dips, short interruptions and voltage variations immunity tests

5.9.2 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
EMS Multi-Tester	EMC Partner	TRANSIENT 2000	648	Apr. 22, 2010	Apr. 21, 2011

5.9.3 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory
No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

5.9.4 EUT Operating Condition

Environment :

Temperature	Humidity
26°C	53%RH

Test setup : Please refer to photo of DIP testing set-up

5.9.5 Results of Voltage Dips Immunity Test

EUT Rated Voltage : 230 Volts.

Voltage : 30, 95 % Ut

Phase Angle : 0,180 degree

Total events: 3 dropouts

Event interval : 10 seconds

Environmental phenomena	Test specification	Duration (in periods of the rated frequency)	Observation
Interruptions	>95	250	B
Voltage dips	30	25	B
	>95	0.5	A

Remark: A : No degradation of performance or loss of function.

B : During testing, the EUT have stop. Testing complete, it can return to normal operation

N/A : Not Applicable.

6. APPENDIX - Constructional Details

Photograph of Testing General Set-up.....	53-60
Photographs of Product.....	61-75

Photograph of Testing General Set-up

CE Testing Set-up



RE Testing Set-up



HARMONIC & FLICEKR Testing Set-up



ESD Testing Set-up



RS Testing Set-up



EFT Testing Set-up



EFT Testing Set-up-Clamp



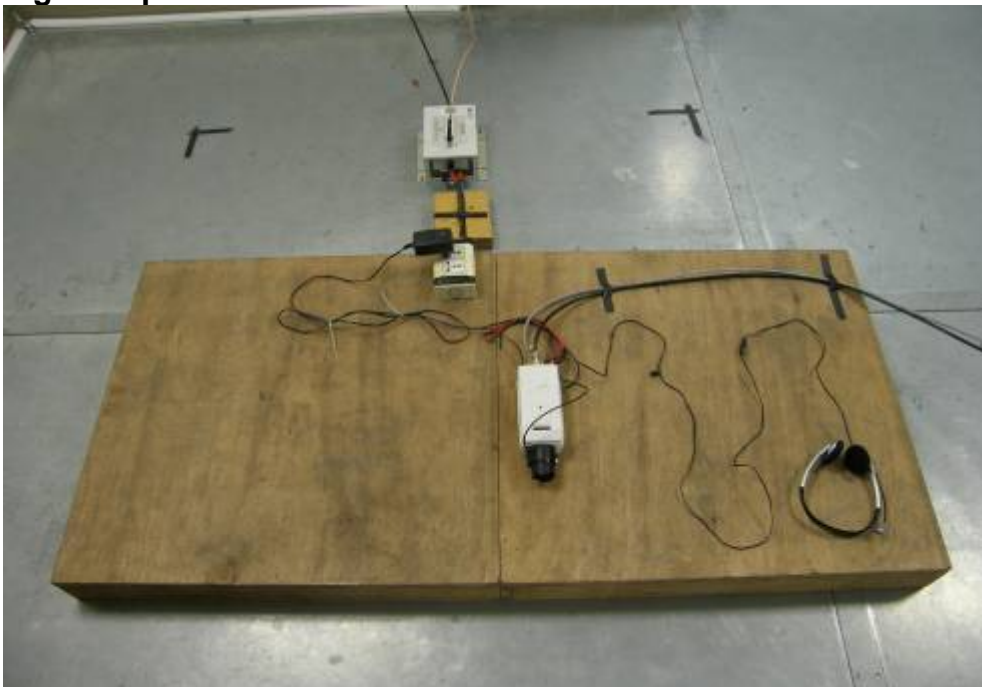
SURGE Testing Set-up



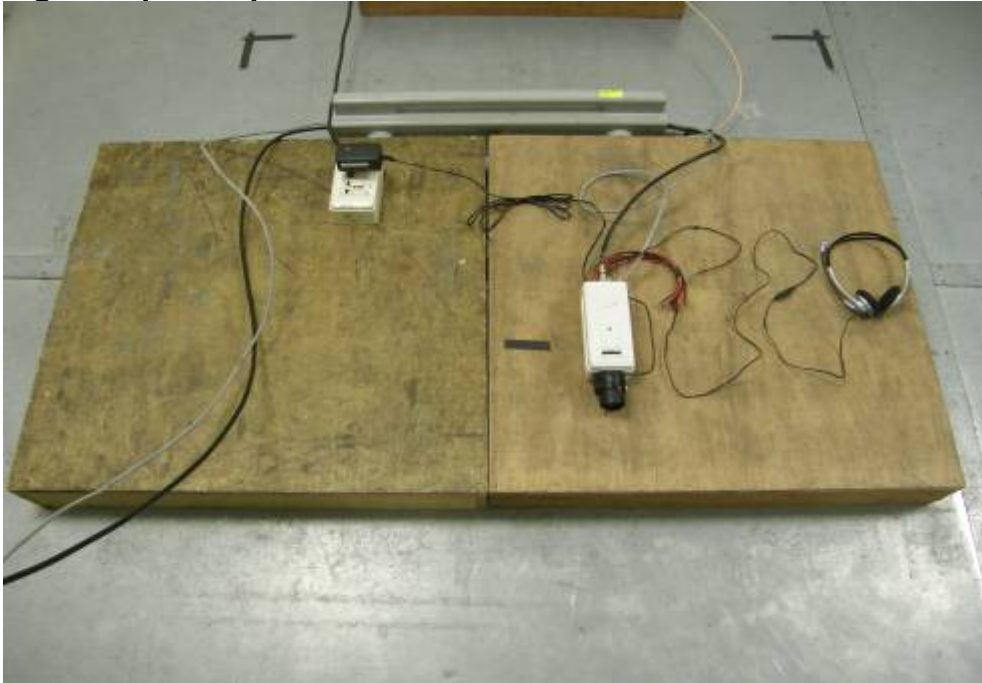
SURGE Testing Set-up-Lan



CS Testing Set-up



CS Testing Set-up-Clamp



PMF Testing Set-up



DIP Testing Set-up



Photographs of EUT Unit

Exterior



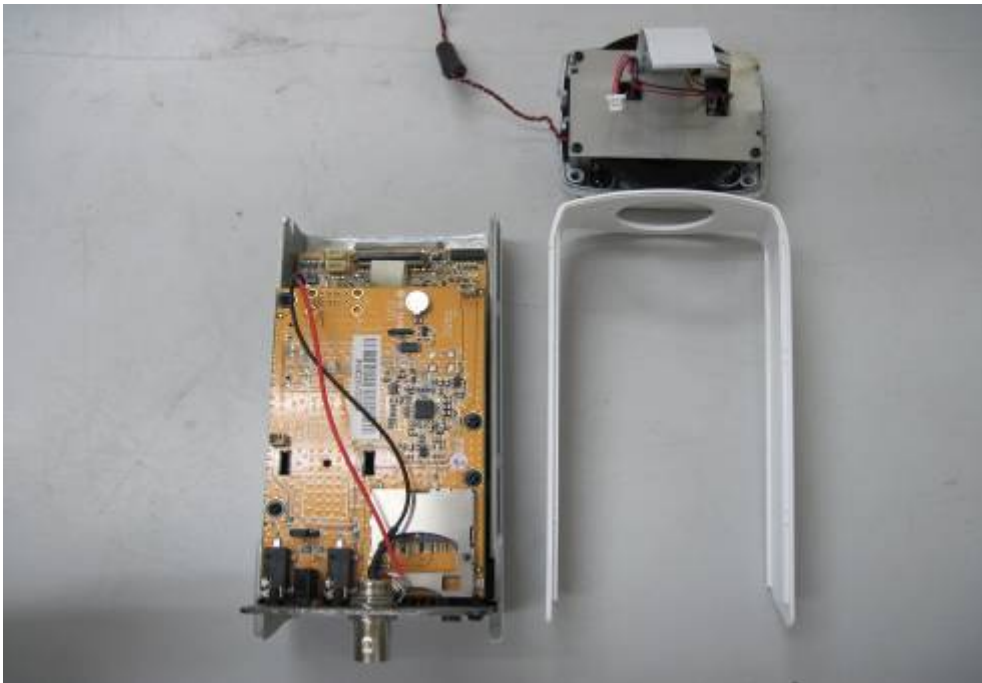


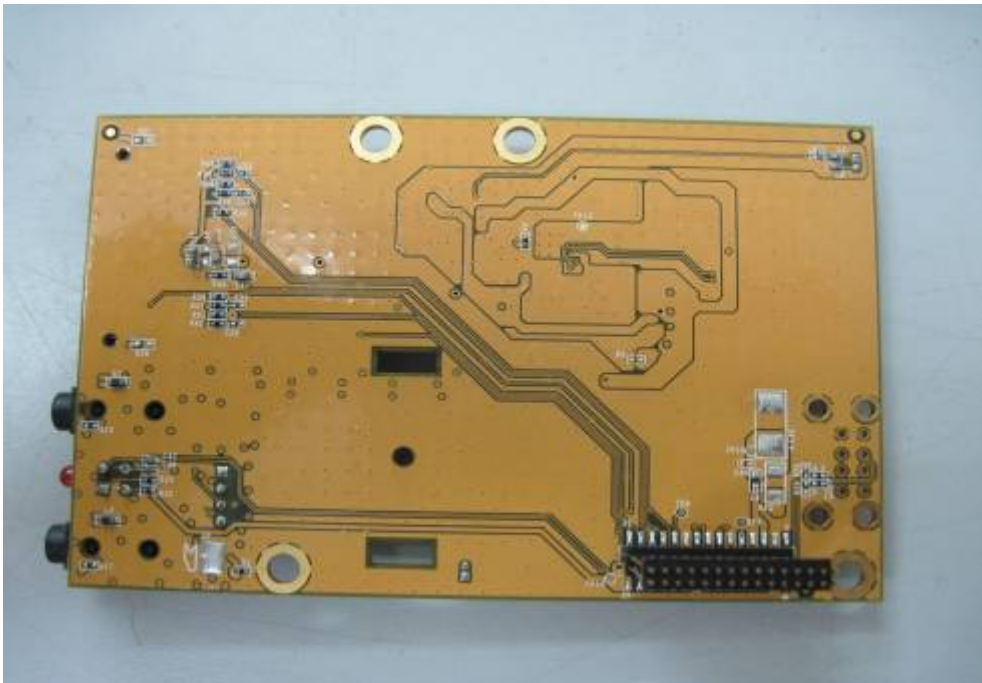




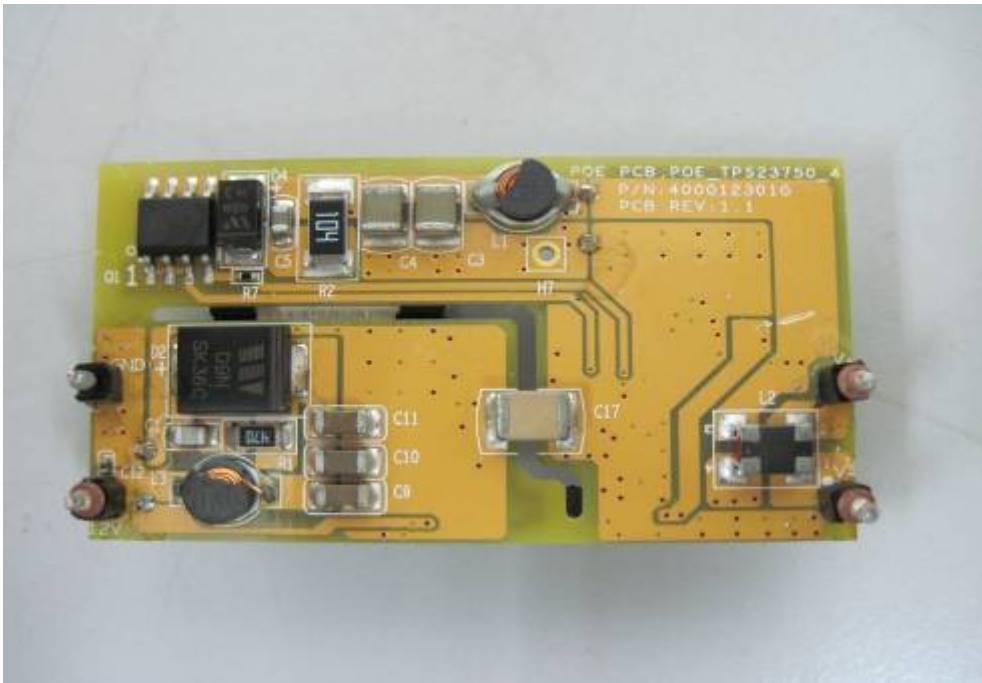
Interior







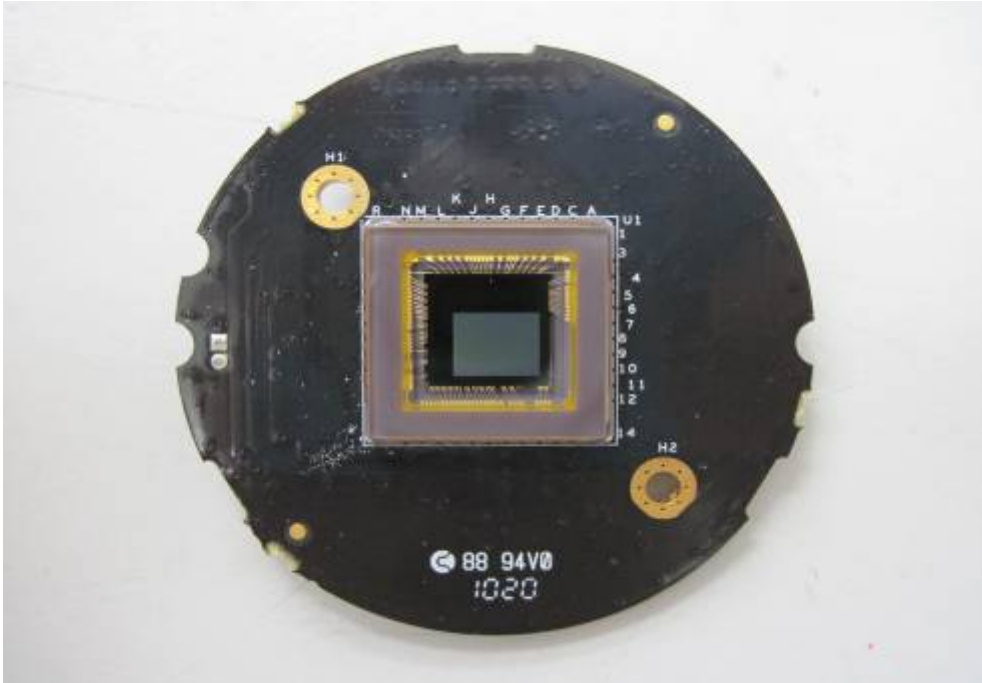


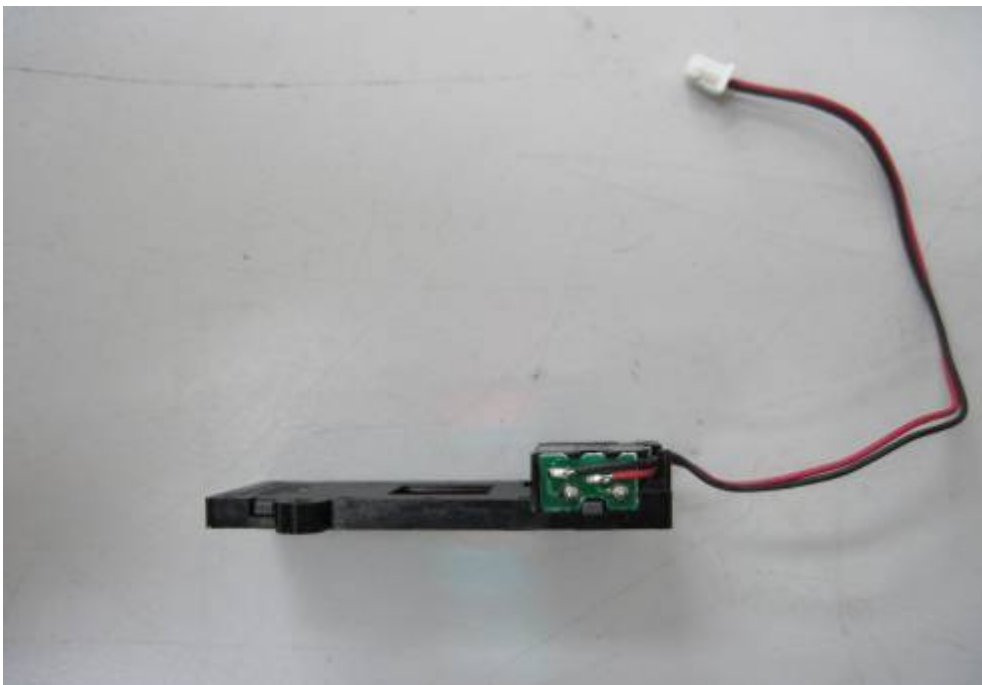












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