ETS Dr.Genz Taiwan PS Co., Ltd.

FCC Registration No.: 930600

Industry Canada filed test laboratory Reg. No. IC 5679

A2LA Cert.No.: 2300.01

PTCRB Accredited Type Certification Test House

EMC TEST - REPORT

Test Report Number: W6M20612-7649-E-11

CE

ETS DR. GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.
PHONE 886-2-66068877 FAX 886-2-66068879

Testing laboratory

Location
ETS DR. GENZ TAIWAN PS CO., LTD.
OATS
No.5-1, Shuang Sing Village,
LiShuei Rd., Wanli Township,
Taipei County 207, Taiwan (R.O.C.)
Company
ETS DR. GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD.
NEIHU, TAIPEI 114, TAIWAN R.O.C.
Tel : 886-2-66068877
Fax : 886-2-66068879

Test location, where different from ETS Dr. GENZ TAIWAN PS CO., LTD.

Name	: ./.
Street	: ./.
Town	: ./.
Country	: ./.
Telephone	: ./.
Fax	: ./.

Details of applicant

Name	: DYNACOLOR, INC.
Street	: No.116, JouTzStreet, Neihu,
Town	: Taipei 114,
Country	: Taiwan
Telephone	: +886-2-2659-8898
Fax	: +886-2-2659-8868

Test item

Description of test item

Type of product	: DVR
Type identification	: DG94 SERIES DG094 XXXXXXX (X → 0~9, A~Z)
Brand Name	: ./.
Power supply Input	: 100-240 VAC, 50/60 Hz, 1.6 A
Output	: 12 VDC, 5 A
Serial number	: Y3K SERIES DG094 XXXXXXX (X→ 0~9, A~Z) , SPECO SERIES DG094 XXXXXXX (X→ 0~9, A~Z)

Test Standards

EN 55022 :1998 +A1: 2000+A2 :2003,
EN 61000-3 -2: 2000+A1 :2005, EN 61000-3-3: 1995+A1:2001+A2 :2005
EN 55024 :1998+A1 :2001+A2 :2003, (EN 61000-4-2 /-3 /-4 /-5 /-6 /-11)
Comment: The testing items of this test report are all according to customer's request.

Electro - Magnetic Compatibility

Test - Result

Reg.-no. : W6M20612-7649-E-11
Device : DVR
Model No : DG94 SERIES DG094 XXXXXXX (X→ 0~9, A~Z)
Manufacturer : DYNACOLOR, INC.
No.116, JouTz Street, Neihu, Taipei 114, Taiwan

☒ 1st test ☐ test after modification ☐ production test

Test Emission / Immunity			Done	Test passed	Test failed
Emission	Conducted Emission	EN 55022 : 1998+A1 :2000+A2 :2003	☒	☒	☐
Emission	Radiated Emission	EN 55022 : 1998+A1 :2000+A2 :2003	☒	☒	☐
Harmonics	Current Harmonics	EN 61000 - 3 - 2: 2000+A1:2005	☒	☒	☐
Flicker	Voltage Fluctuations	EN 61000 - 3 - 3: 1995+A1: 2001+A2 : 2005	☒	☒	☐
ESD	Electrostatic Discharge	EN 61000 - 4 - 2: 1995+A1: 1998+A2: 2001	☒	☒	☐
RF - Field	Radiated Immunity	EN 61000- 4 - 3: 2002 + A1:2002	☒	☒	☐
Burst	Electrical Fast Transients	EN 61000- 4- 4 : 2004	☒	☒	☐
Surge	Transients comm.& diff.mode	EN 61000 - 4 - 5: 1995+A1: 2001	☒	☒	☐
RF-commonmode	RF continues conducted	EN 61000 - 4 - 6: 1996+A1 : 2001	☒	☒	☐
V-dips	Voltage dips and Interruption	EN 61000 - 4 - 11: 2004	☒	☒	☐

Technical responsibility for area of testing: Tester:

Steven Chuang Jay Chaing

Issue Date： Jan 10, 2007 Jan 10, 2007

Test equipment utilized

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2006/10/16	2007/10/15
ETSTW-CE 002	PREREULATOR MODE DC POWER SUPPLY	None	None		Function Test	
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2006/10/16	2007/10/15
ETSTW-CE 005	Line-Impedance Stabilisation Network	NNBM 8126D	137	Schwarzbeck	2006/10/16	2007/10/15
ETSTW-CE 006	IMPULS-BEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	In House Certificate	
ETSTW-CE 008	ABSORBING CLAMP	MDS 21	3469	ABSORPTIONS-MESSWANDLER-ZANGE	2005/10/24	2007/10/23
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2006/8/17	2007/8/16
ETSTW-CE 012	Dual-Phase-V-Network	NNB-2/16Z	03/10201	Telemeter	2006/6/13	2007/6/12
ETSTW-CE 013	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T4-02	20242	FCC	2005/12/8	2007/12/7
ETSTW-CE 014	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T2-02	20241	FCC	2005/12/7	2007/12/6
ETSTW-CE 015	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T8-02	20307	FCC	2006/11/7	2008/11/6
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2006/11/21	2007/11/20
ETSTW-CS 003	COUPLING AND DECOUPLING NETWORK	CDN T400	19820	SCHAFFNER	2005/10/14	2007/10/13
ETSTW-CS 004	COUPLING AND DECOUPLING NETWORK	CDN M016	20053	SCHAFFNER	2006/10/11	2007/10/10
ETSTW-CS 005	RF Power Amplifier	100A250A	306547	AR	2006/10/11	2007/10/10
ETSTW-CS 008	6 dB Attenautor	HFP-5100-3/06 N M/F	2010876106	JFW	In House Certificate	
ETSTW-RE 002	Function Generator	33220A	MY43004982	Agilent	2005/10/14	2007/10/13
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2006/10/20	2007/10/19
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2006/10/30	2007/10/29
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2006/10/12	2007/10/11
ETSTW-RE 010	PROGRAMMABLE LINEAR POWER SUPPLY	LPS-305	30503070181	MOTECH	Function Test	
ETSTW-RE 011	PROGRAMMABLE LINEAR POWER SUPPLY	LPS-305	30503070165	MOTECH	Function Test	
ETSTW-RE 017	ANTENNA	HL025	352886/001	R&S	2006/5/4	2008/5/3
ETSTW-RE 018	ANTENNA	AT4560	27212	AR	2004/11/8	2007/11/7
ETSTW-RE 020	MICROWAVE HORN ANTENNA	AT4002A	306915	AR	Function Test	

ETSTW-RE 021	SWEEP GENERATOR	SWM05	835130/010	R&S	2006/10/11	2007/10/10
ETSTW-RE 027	Passive Loop Antenna	6512	34563	EMCO	2004/6/30	2007/6/29
ETSTW-RE 028	Log-Periodic DipoleArray Antenna	3148	34429	EMCO	2006/5/26	2008/5/25
ETSTW-RE 029	Biconical Antenna	3109	33524	EMCO	2006/5/26	2008/5/25
ETSTW-RE 030	Double-Ridged Waveguide Horm Antenna	3117	35224	EMCO	2006/5/3	2008/5/2
ETSTW-RE 032	Millivoltmeter	URV 55	849086/013	R&S	2006/10/11	2007/10/10
ETSTW-RE 033	4CH 1GHz 5GS/s DSO	WAVERUNNER 6100A	LCRY0604P14508	LeCroy	2006/7/27	2007/7/26
ETSTW-RE 034	Power Sensor	URV5-Z4	839313/006	R&S	2005/10/17	2007/10/16
ETSTW-RE 042	ANTENNA	HK116	100172	R&S	2005/1/14	2007/1/13
ETSTW-RE 043	ANTENNA	HL223	100166	R&S	2006/5/8	2008/5/7
ETSTW-RE 044	ANTENNA	HL050	100094	R&S	2006/5/29	2008/5/28
ETSTW-RE 048	Triple Loop Antenna	HXYZ 9170	HXYZ 9170-134	Schwarzbeck	2005/3/22	2008/3/21
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2005/5/19	2007/5/18
ETSTW-RE 055	SPECTRUM ANALYZER	FSU-26	200074	R&S	2006/7/28	2007/7/27
ETSTW-EMI 001	HARMONICS 1000	HAR 1000-1P	93	EMC-PARTNER	2006/9/12	2007/9/11
ETSTW-EMS 001	Clamp BASELSTRASSE 160 CH-4242 LAUFEN	CN-EFT1000	354	EMC-PARTNER	2005/11/1	2007/10/31
ETSTW-EMS 002	Frequency Converter	YF-6020	308014	T-Power	Function Test	
ETSTW-EMS 003	EMC Immunity Test System	TRA2000IN6	579	EMC-PARTNER	2006/10/18	2007/10/17
ETSTW-EMS 004	ESD generator minizap	ESD2000	16	EMC-PARTNER	2006/10/18	2007/10/17
ETSTW-EMS 008	Safety Test Solutions	ELT-400	E-0039	Narda	2005/5/4	2007/5/3
ETSTW-EMS 009	Magnetic Field Antenna	MF1000-1	104	EMC-PARTNER	2004/12/3	2007/12/2
ETSTW-EMS 010	Coupling De-coupling Network	CDN-UTP8	14	EMC-PARTNER	2005/9/1	2008/8/31
ETSTW-EMS 011	Calibration Ficture	F-203I-CF-23MM	451	FCC	2006/7/29	2008/7/28
ETSTW-EMS 012	EM Injection Clamp	F-203I-23MM	476	FCC	2006/7/29	2008/7/28
ETSTW-EMS 014	Digital Thermo-Hygro Meter	0507		WISEWIND	2005/11/15	2007/11/14
ETSTW-RS 002	14" COLOR VIDEO MONITOR	TP-1480HR	P009814	TOPICA	Function Test	
ETSTW-RS 003	RF Power Amplifier	30S1G3	306933	AR	2006/10/11	2007/10/10
ETSTW-RS 004	RF Power Amplifier	150W1000	307009	AR	2006/10/11	2007/10/10
ETSTW-RS 005	Electric Field Probe Type 8.3	2244/90.21	AF-0016	Narda	2005/9/7	2007/9/6
ETSTW-RS 006	SIGNAL GENERATOR	SML03	101551	R&S	2006/10/9	2007/10/8
ETSTW-RS 007	14" COLOR VIDEO MONITOR	HS-CM145A	0512011548		Function Test	
ETSTW-GSM 01	SIM Simulator	IT3	B2004-50106	ORGA	2006/7/26	2007/7/25
ETSTW-GSM 02	Universal Radio Communication Tester	CMU 200	109439	R&S	2006/10/18	2007/10/17

ETSTW-GSM 03	Agilent 8960 Test Set 1	E5515C	GB44052675	Agilent	2006/6/26	2008/6/25
ETSTW-GSM 04	Agilent 8960 Test Set 2	E5515C	GB44052665	Agilent	2006/6/29	2008/6/28
ETSTW-GSM 05	Agilent 8960 Test Set 3	E5515C	GB44052652	Agilent	2006/7/11	2008/7/10
ETSTW-GSM 06	Agilent 8960 Test Set 4	E5515C	GB44052684	Agilent	2006/7/4	2008/4/3
ETSTW-GSM 07	Agilent 8960 Test Set 5	E5515C	GB44052658	Agilent	2006/7/12	2008/7/11
ETSTW-GSM 08	Agilent 8960 Test Set 6	E5515C	GB44052666	Agilent	2006/7/6	2008/7/5
ETSTW-GSM 09	Controller PC	Dell GX 270	700F61J	Dell	Function Test	
ETSTW-GSM 10	Combiner Wessex / Anite	B4605/100	0053	Wessex / Anite	2006/9/22	2008/9/21
ETSTW-GSM 11	GSM 850,900,1800,1900 Test system	TS8950G		R&S	2004/12/03	2007/12/2
ETSTW-GSM 12	Acoustical Calibrator	4231	2463874	Brüel&Kjær	2006/7/26	2007/7/25
ETSTW-GSM 13	Conditioning Amplifier	2690--0S2	2437856	Brüel&Kjær	2006/7/26	2007/7/25
ETSTW-GSM 15	Mouth Simulator	4227	2462516	Brüel&Kjær	2006/7/26	2007/7/25
ETSTW-GSM 16	TEMP.&HUMIDITY CHAMBER	GTH-120-40-1P-U	MAA0501002	GIANT FORCE	2006/12/28	2007/12/27
ETSTW-GSM 18	AUDIO ANALYZER	UPL16	100173	R&S	2006/10/28	2007/10/27
ETSTW-GSM 23	SPLITTER	4901.19.A	None	SUHNER	Function Test	
ETSTW-GSM 24	Vibration Testing System	VS-100V	5494	Vibration	2006/12/19	2007/12/18
ETSTW-GSM 29	Microphone	4192	2458739	Brüel&Kjær	2006/7/26	2007/7/25
ETSTW-GSM 30	Ear Simulator	4195	2457416	Brüel&Kjær	2006/7/26	2007/7/25

Spurious Emission (EN 55022)

Test Equipment

a) Antenna (HK116)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-RE 042
b) Antenna (HL223)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-RE 043
c) TRILOG Super Broadband test Antenna (VULB 9160)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-RE 049
d) SIGNAL GENERATOR (SMX)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-RS 006
e) EMI TEST RECEIVER (ESI-26)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-RE 003
f) EMI TEST RECEIVER (ESI-40)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-RE 004

Test Procedures

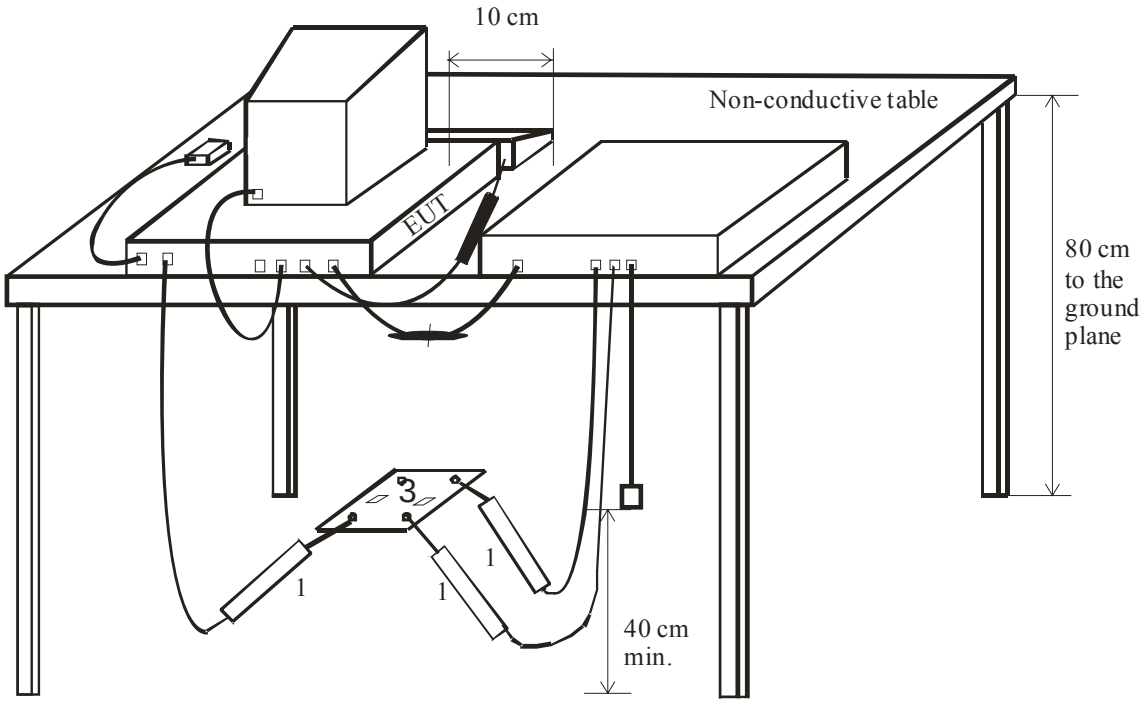
- Test configuration

The test configuration corresponds to the standard EN 55022. The equipment under test is placed on a non metallic table with 0,8m hight.
The power supply and the RF connection points are close to the equipment under test at the floor inside a connection box. The cables to this connection box are shielded and below the double floor. The receiving antenna is placed in a height at 1,0m to 4,0m, in a distance of 10m. The measurement receiver are placed in a special room. (see picture 1) The observation of the equipment under test is realized by 3 video cameras and by a microphone.

- Test parameters and marginal conditions

The test are carried out with horizontal and vertical polarisation of the antenna in a frequency range of 30 MHz to 1000 MHz. Further information please find in the test protocol.

Radiated Emission according to EN 55022



EUT = Equipment under test

1 = Ferrite clamp

Picture 1

Conducted Emission (EN 55022)

Test Equipment

a) Artifical mains (ESH3-Z5)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-CE 004
b) IMPULS-BEGRENZER PULSE LIMITER (ESH3-Z2)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-CE 006
c) Test receiver (ESHS10)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-CE 001
d) AC Power Source (APS-9102)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-CE 003
e) CISPR 22 Two Balanced Telecom Pairs Impedance Stabilization Network (FCC-TLISN-T4-02)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-CE 013
f) CISPR 22 Two Balanced Telecom Pairs Impedance Stabilization Network (FCC-TLISN-T2-02)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-CE 014
g) CISPR 22 Two Balanced Telecom Pairs Impedance Stabilization Network (FCC-TLISN-T8-02)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-CE 015

Test Procedures

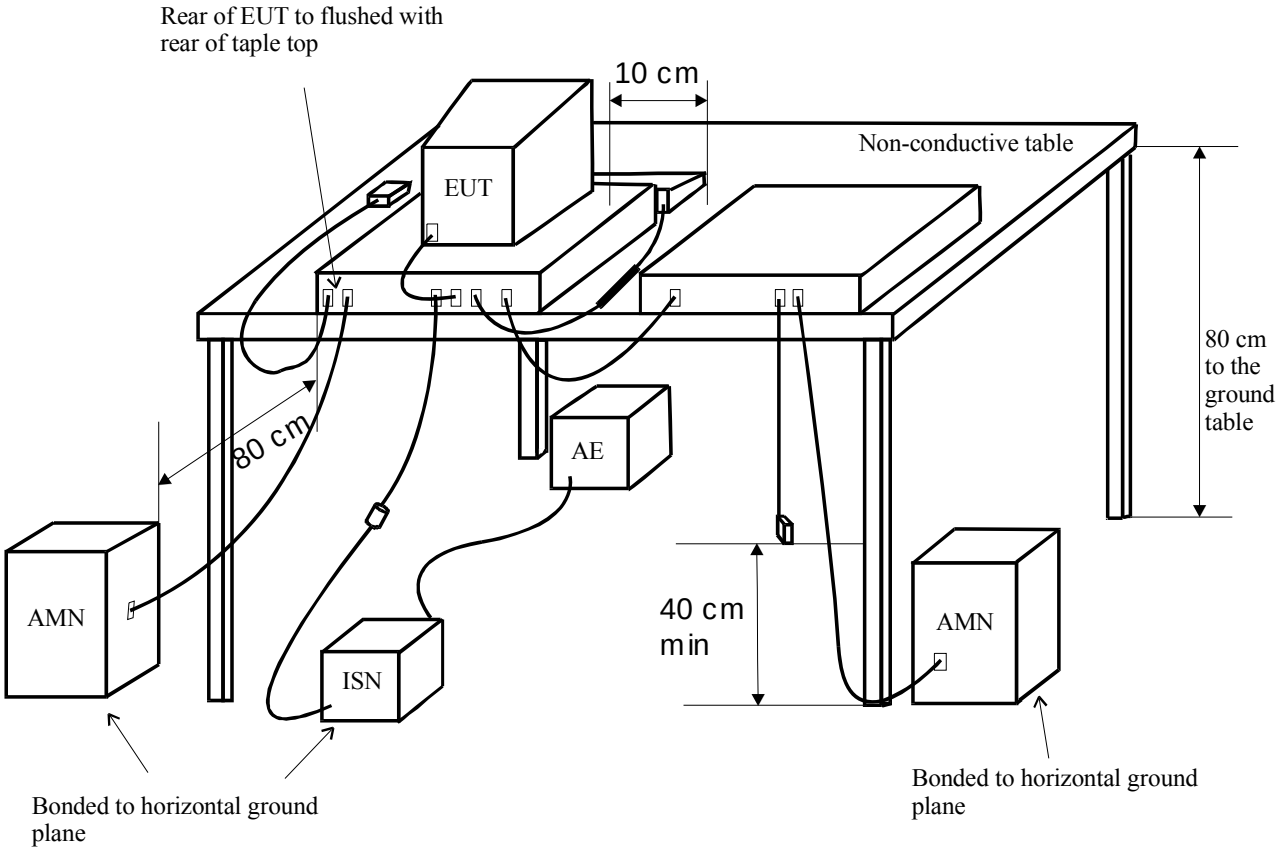
- Test configuration

The test configuration is contained inside of a shielded chamber and corresponds to the standard EN 55022. The equipment under test is placed in the facility on a wooden table 0.8m high. The equipment under test is connected with the artificial mains network (AMN) in a distance of 0,8m and also 0,8m from other subassembly and metallic area. (see picture 2) The observation of the equipment under test is realized by 3 video cameras and by a microphone.

- Test parameters and marginal conditions

The test is carried out with a nominal impedance by 50Ω / 50µH of the AMN in a frequency range 150 kHz to 30 MHz. Further information please find in test report.

Conducted Emission according to EN 55022



AMN = Artificial mains network
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabiliyation network

Picture 2

Harmonic Current Emission /Voltage Fluctuations and Flicker (EN 61000-3-2/-3)

Test Equipment

a) HARMONICS 1000 (HAR1000-1P)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMI 001
b) Frequency Convertor (YF-6020)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 002

Test Procedures

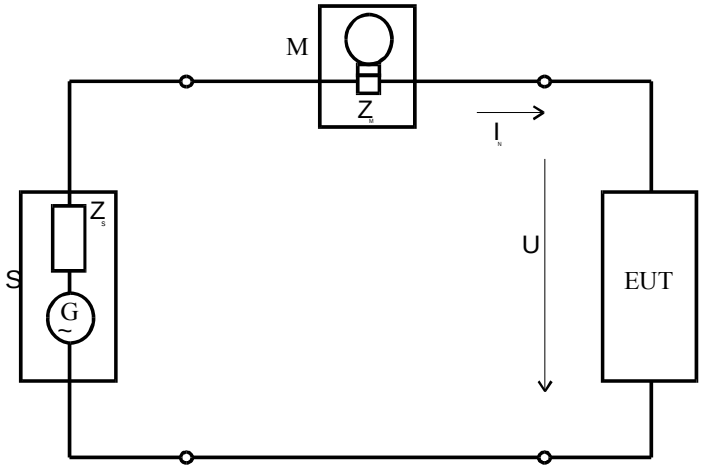
- Test configuration

The test configuration is correspondence to the standard EN 61000-3-2/-3. The equipment under test is placed on a wooden table with a hight of 0,8m in the EMC lab.

- Test parameters and marginal conditions

The harmonic test are carried out in according the classification A,B,C,D of the standard EN 61000-3-2. The flicker test are carried out in according the time interval of the standard EN 61000-3-3. Both tests are carried out with above mentioned equipment with 230V and 50 Hz. (see picture 3) Further information please find in test protocol.

Current Harmonics and Flicker according to EN 61000 - 3 - 2, EN 61000 - 3 - 3



S	supply source
M	measuring equipment
EUT	equipment under test
U	test voltage
Z_M	input impedance of the measuring equipment
Z_S	internal impedance of the supply source
I_N	upper shrinkage portion of the conduction current order
G	open-circuit voltage of the supply source

Picture 3

Electrostatic Discharge

Test Equipment

a) ESD - generator minizap (ESD2000)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 004
b) EMC Immunity Test System (TRA2000IN6)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 003
c) Frequency Convertor (YF-6020)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 002

Test Procedures

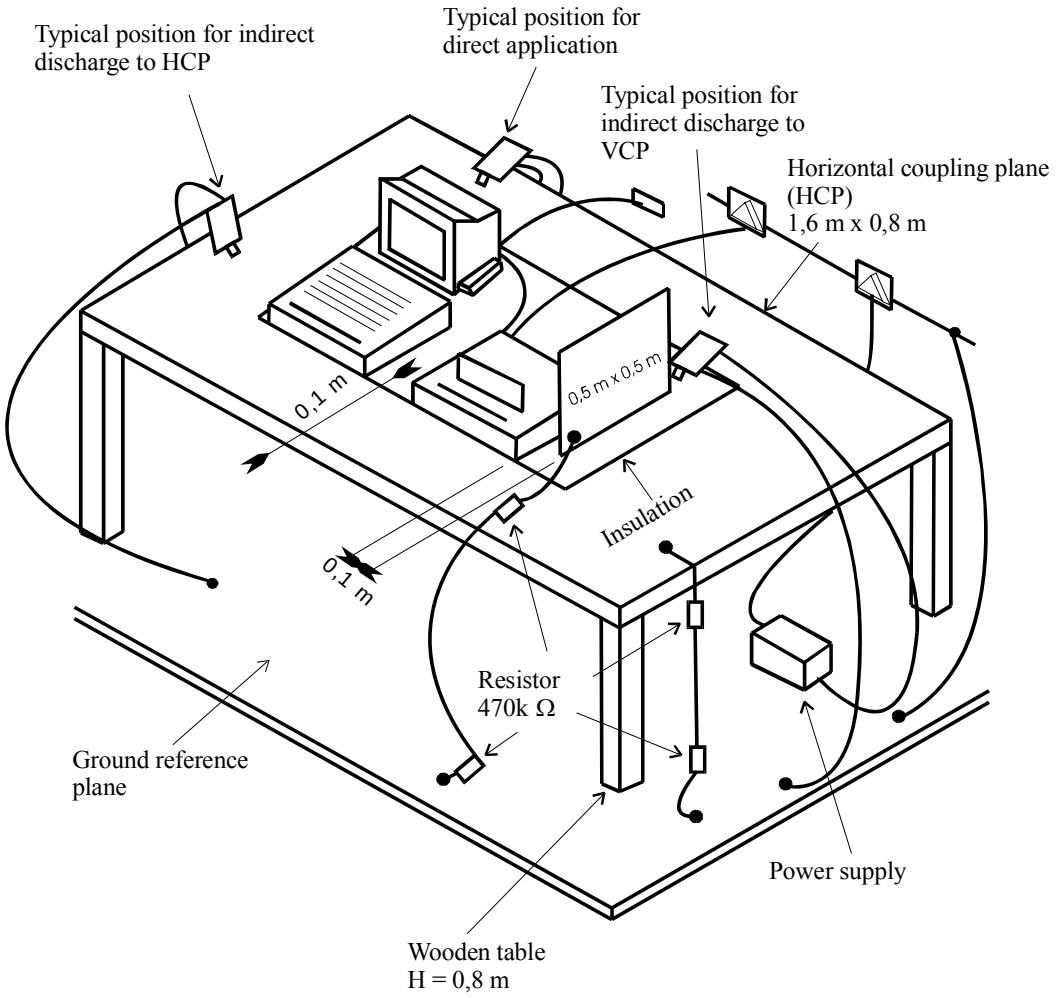
- Test configuration

The test configuration is in correspondence to the standard EN 61000-4-2. The equipment under test is placed on a wooden table with one metal plate on its top and one metal plate under the table, which is grounded. Both plates are connected with two 470 kΩ resistor in series. (see picture 4)

- Test parameters and marginal conditions

The test is carried out with ±2kV, ±4kV contact discharge and ±2kV, ±4kV and ±8kV air discharge.
Time between two discharges $\geq$ 1 second
Ten discharges for every point every voltage and polarity
The tested points please find in the test protocol.

Electrostatic Discharge according to EN 61000 - 4 - 2



Picture 4

RF Electromagnetic Field (80-1000 MHz)

Test Equipment

a) Antenna (3109)
For your reference please find it in our test equipment list at page 4 to 6 as number: ETSTW-RE 029
b) Antenna (HL223)
For your reference please find it in our test equipment list at page 4 to 6 as number: ETSTW-RE 043
c) Antenna (AT4560)
For your reference please find it in our test equipment list at page 4 to 6 as number: ETSTW-RE 018
d) ANTENNA(HK116)
For your reference please find it in our test equipment list at page 4 to 6 as number: ETSTW-RE 042
e) Generator SML (SML03)
For your reference please find it in our test equipment list at page 4 to 6 as number: ETSTW-RS 006
f) Amplifier (150W1000)
For your reference please find it in our test equipment list at page 4 to 6 as number: ETSTW-RS 004
g) Electric Field Probe Type 8.3 (EMR-20)
For your reference please find it in our test equipment list at page 4 to 6 as number: ETSTW-RS 005
h) Millivoltmeter (URV 55)
For your reference please find it in our test equipment list at page 4 to 6 as number: ETSTW-RE 032
i) Power Sensor (URV5-Z4)
For your reference please find it in our test equipment list at page 4 to 6 as number: ETSTW-RE 034

Test Procedures

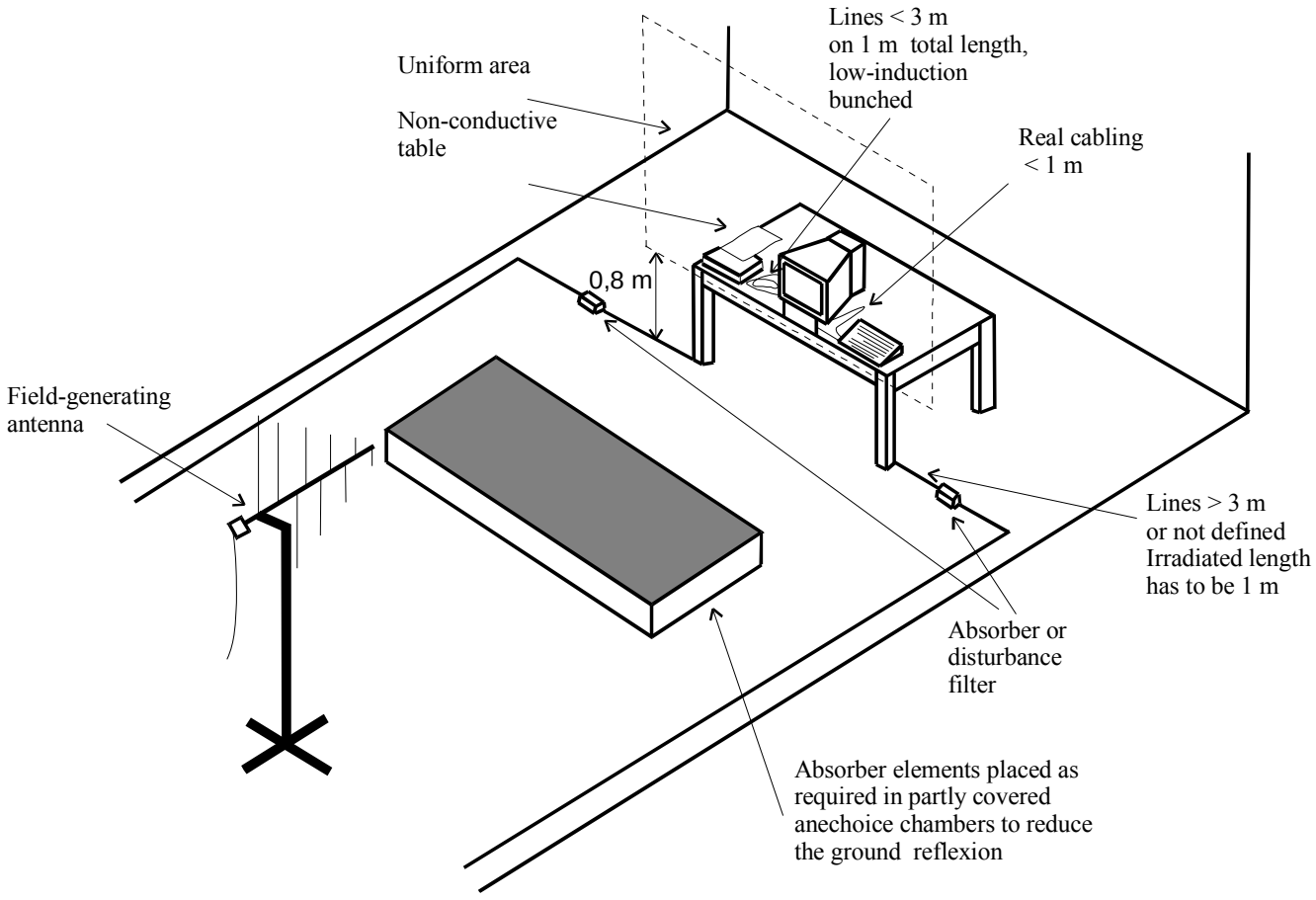
- Test configuration

The test configuration is contained inside of a shielded chamber and corresponds to the standard EN 61000-4-3. The equipment under test is placed in the facility on a wooden table 0.8m high on the center axis of the chamber. The power supply and the RF connection points are close to the equipment under test at the floor of the chamber inside a connection box. The cables to this connection box are shielded and below the double floor. The transmitting antenna is placed in a height of 1.5m, in a distance of 3.0m. The RF-generators are placed in a special room adjacent to the chamber. (see picture 5) The observation of the equipment under test is realized by 3 video cameras and by a microphone. In order to establish the severity of the test for EUTs an wires which must be tested close to the earth reference plane or which have larger sides than 1,5m x 1,5 m, the intensity of the field is also recorded at 0,4 m height, and for the full width and height of the EUT.

- Test parameters and marginal conditions

The tests are carried out with a field strength by 3 V/m (measured in the unmodulated field) with amplitude modulated signal by a depth of 80 % by a sinusoidal audio signal of 1 kHz. The logarithmic step was 1% and the dwell time was 1s dependent of the EUT cycle time. Further information please find in test protocol.

RF - Field according to EN 61000 - 4 - 3



Picture 5

Transients common mode

Test Equipment

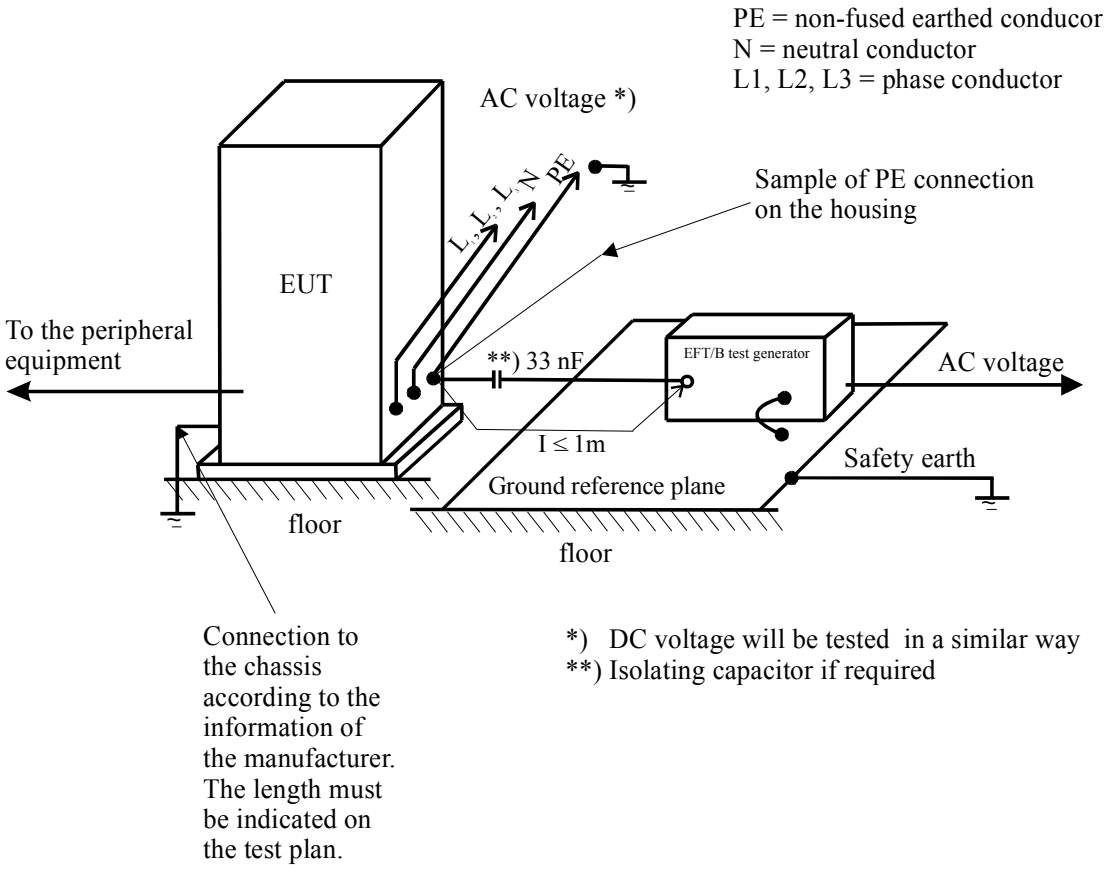
a) EMC Immunity Test System (TRA2000IN6)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 003
b) Frequency Convertor (YF-6020)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 002
c) Clamp Baselstrasse 160 CH-4242 Laufen (CN-EFT1000)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 001

Test Procedures

• Test configuration
The test configuration is in correspondence to the standard EN 61000-4-4. The equipment under test is placed on a wooden table with a hight of 0,8m ±0,08m. The table stands on metal plate which is grounded. (see picture 6)

• Test parameters and marginal conditions
The tests are carried out with 0,5 kV open circuit voltage on signal, control ports and DC power ports and with 1 kV open circuit voltage on AC mains power input. The applied voltage please find in the test protocol.

Electrical Fast Transients according to EN 61000 - 4 - 4



Picture 6

Transients surge common and differential mode

Test Equipment

a) EMC Immunity Test System (TRA2000IN6)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 003
b) Frequency Convertor (YF-6020)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 002

Test Procedures

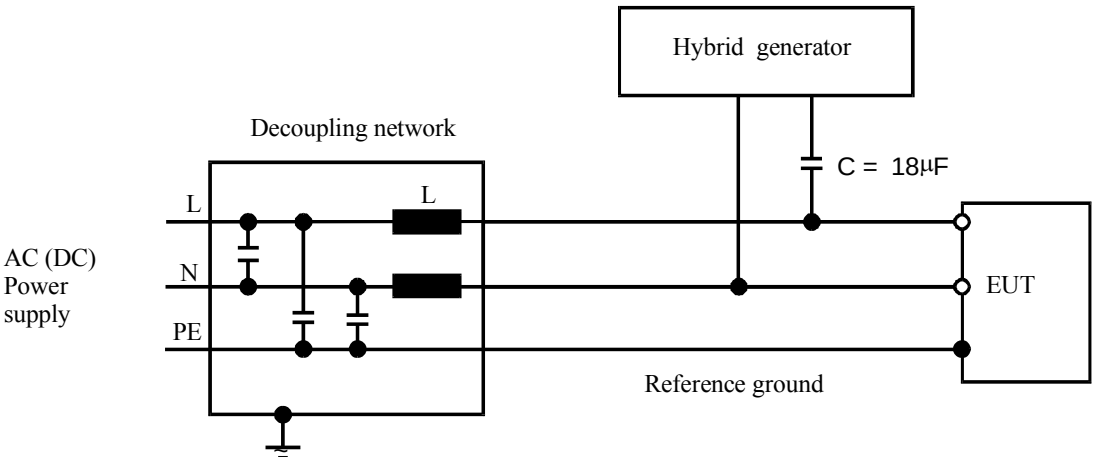
• Test configuration

The test configuration is in correspondence to the standard EN 61000-4-5. The equipment under test is placed on a wooden table with a hight of 0,8m. The table stands on metal plate which is grounded.

• Test parameters and marginal conditions

The tests are carried out with 0.5, 1, 2 kV open circuit voltage for common mode and with 0.5, 1 kV open circuit voltage for differential mode. (see picture 7) Further information please find in the test protocol.

Transients common & differential mode according to EN 61000 - 4 - 5



Picture 7

Radio frequency common mode

Test Equipment

a) SIGNAL GENERATOR (SMX)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-RS 006
b) RF Power Amplifier (100A250A)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-CS 005
c) CDN system IEC 1000-4-6
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-CS 003 , ETSTW-CS 004
d) Power Sensor (URV5-Z4)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-RE 034
e) Millivoltmeter (URV 55)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-RE 032
f) 6 dB Attenautor (HFP-5100-3/06 N M/F)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-CS 008
g) Frequency Converter (YF-6020)
For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 002

Test Procedures

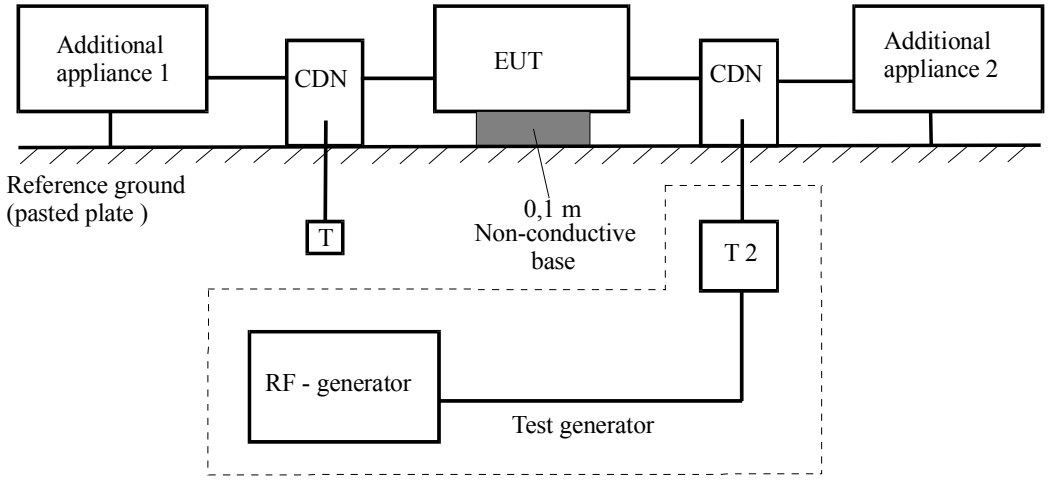
- Test configuration

The test configuration is in correspondence to the standard EN 61000-4-6. The test is carried out on a wooden table with a grounded metal plate on its top. The equipment under test is placed on an insulating support of 0,1m height above this metal plate. (see picture 8)

- Test parameters and marginal conditions

The tests are carried out with a Voltage of 3V RMS (measured unmodulated) with amplitude modulated signal by a depth of 80 % by a sinusoidal signal of 1 kHz. The frequency steps in the frequency range 150 kHz - 80 MHz increments with 1 % of the actual frequency. The dwell time was 1s dependent on the EUT cycle time. The tested ports please find in the test protocol.

RF- continues conducted according to EN 61000 - 4 - 6



T 50 - Ω - termination
T 2 attenuator pad (6 dB)
CDN coupling network / decoupling network

Picture 8

Voltage dips and interruptions

Test Equipment

a) EMC Immunity Test System (TRA2000IN6)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 003
b) Frequency Convertor (YF-6020)
   For your reference please find it in our test equipment list at page 4 to 6 as number : ETSTW-EMS 002

Test Procedures

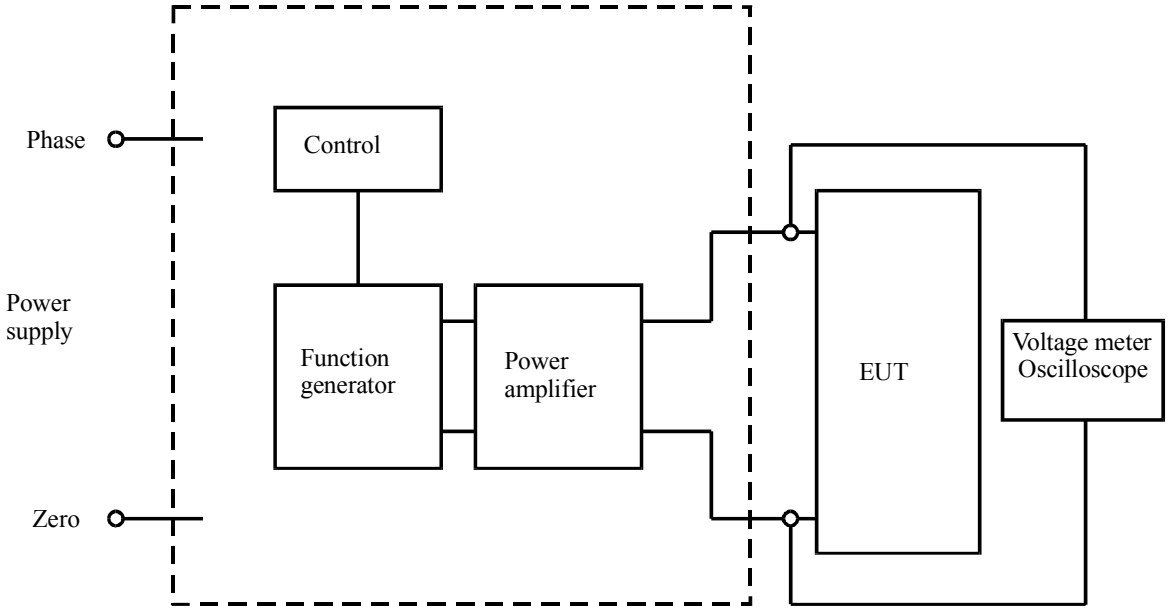
• Test configuration

The test configuration is in correspondence to the standard EN 61000-4-11. The equipment under test is placed on a wooden table with a hight of 0,8 metre. (see picture 9)

• Test parameters and marginal conditions

The test levels corresponding to a reduction of the supply voltage of 30 % (for 500ms) > 95 % (for 10ms) and interruption > 95 % (5s). The applied voltage please find in the test protocol.

Voltage dips and interruption accordiing to EN 61000 - 4 - 11



Picture 9

Radio Noise Field Strength

Emission

Standard : EN 55022

Device : DG94 SERIES DG094 XXXXXXX

(X→ 0~9, A~Z)

Date : Dec 14-15, 2006

Class : A

Temperature : 23.9 °C
Pressure : 921 hPa
Rel. humidity : 51 %

Frequency Range / Polarization	Antenna	Passed	Failed	Number of rechecks
30 MHz - 200 MHz / vertical	HK 116	☒	☐	0
30 MHz - 200 MHz / horizontal	HK 116	☒	☐	0
200 MHz - 1000 MHz /vertical	HL 223	☒	☐	0
200 MHz - 1000 MHz / horizontal	HL 223	☒	☐	0

Comment: See attached diagram as appendix A.

Standard : EN 55022

Device : DG94 SERIES DG094 XXXXXXX

(X→ 0~9, A~Z)

Date : Dec 14, 2006

Class : A

Temperature	:	23.9 °C
Pressure	:	921 hPa
Rel. humidity	:	51 %

Summary table with radiated data of the test plots

CD-ROM Mode

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	162.144	22.34	14.63	QP	36.97	40	3.03	105	109
	189.098	24.30	12.22	QP	36.52	40	3.48	101	122
	216.032	23.64	11.96	PK	35.60	40	4.40	310	87
	297.798	24.83	15.05	PK	39.88	47	7.12	251	300
	320.240	25.41	15.81	PK	41.22	47	5.78	121	71
	903.875	20.32	23.70	QP	44.02	47	2.98	100	176

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	162.094	23.09	14.63	QP	37.72	40	2.28	117	117
	189.098	24.42	12.22	QP	36.64	40	3.36	115	130
	216.032	18.83	11.96	PK	30.79	40	9.21	209	93
	320.248	25.12	15.81	PK	40.93	47	6.07	132	62
	996.793	12.75	27.99	PK	40.74	47	6.26	400	196

Note
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Corrected Reading + Correction Factor**
3. **Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**

Standard : EN 55022

Device : DG94 SERIES DG094 XXXXXXX

(X→ 0~9, A~Z)

Date : Dec 15, 2006

Class : A

Temperature	: 23.9 °C
Pressure	: 921 hPa
Rel. humidity	: 51 %

HD Mode

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	121.653	24.11	12.75	PK	36.86	40	3.14	342	120
	189.087	25.67	12.22	PK	37.89	40	2.11	315	180
	268.937	24.17	14.15	PK	38.32	47	8.68	257	220
	216.032	24.77	11.96	PK	36.73	40	3.27	300	240
	996.781	16.53	27.99	QP	44.52	47	2.48	100	175

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	162.192	21.29	14.63	PK	35.92	40	4.08	110	84
	189.098	19.30	12.22	PK	31.52	40	8.48	115	120
	201.603	21.84	11.58	PK	33.42	40	6.58	122	100
	323.446	23.04	15.88	PK	38.92	47	8.08	351	96
	996.783	16.87	27.99	QP	44.86	47	2.14	400	191

Note
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Corrected Reading + Correction Factor**
3. **Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**

Radio Noise Field Strength

Emission

Standard : EN 55022

Device : Y3K SERIES DG094 XXXXXXX (X→ 0~9, A~Z) , SPECO SERIES DG094 XXXXXXX (X→ 0~9, A~Z)

Date : Jan 08, 2007

Class : A

Temperature	:	23.9 °C
Pressure	:	921 hPa
Rel. humidity	:	51 %

Frequency Range / Polarization	Antenna	Passed	Failed	Number of rechecks
30 MHz - 200 MHz / vertical	HK 116	☒	☐	0
30 MHz - 200 MHz / horizontal	HK 116	☒	☐	0
200 MHz - 1000 MHz /vertical	HL 223	☒	☐	0
200 MHz - 1000 MHz / horizontal	HL 223	☒	☐	0

Comment: See attached diagram as appendix B.

Standard : EN 55022

Device : Y3K SERIES DG094 XXXXXXX (X→ 0~9, A~Z) , SPECO SERIES DG094 XXXXXXX (X→ 0~9, A~Z)

Date : Jan 08, 2007

Class : A

Temperature	:	23.9 °C
Pressure	:	921 hPa
Rel. humidity	:	51 %

Summary table with radiated data of the test plots

CD-ROM Mode

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	121.643	24.48	12.75	QP	37.23	40	2.77	362	221
	175.814	23.78	13.76	QP	37.54	40	2.46	314	186
	189.048	23.9	12.22	QP	36.12	40	3.88	305	94
	216.032	25.56	11.96	QP	37.52	40	2.48	300	153
	270.541	28.87	14.24	QP	43.11	47	3.89	254	125
	996.254	16.53	27.99	QP	44.52	47	2.48	100	110

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	121.731	25.09	12.75	QP	37.84	40	2.16	110	121
	157.424	22.27	14.70	QP	36.97	40	3.03	100	75
	199.318	25.51	11.61	QP	37.12	40	2.88	182	180
	216.032	23.66	11.96	QP	35.62	40	4.38	194	176
	398.797	26.05	17.86	QP	43.91	47	3.09	310	210
	996.742	16.92	27.99	QP	44.91	47	2.09	391	227

Note
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Corrected Reading + Correction Factor**
3. **Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**

Standard : EN 55022

Device : Y3K SERIES DG094 XXXXXXX
(X→ 0~9, A~Z) , SPECO SERIES DG094
XXXXXXX (X→ 0~9, A~Z)

Date : Jan 08, 2007

Class : A

Temperature	: 23.9 °C
Pressure	: 921 hPa
Rel. humidity	: 51 %

HD Mode

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	121.294	25.12	12.75	QP	37.87	40	2.13	360	210
	189.109	24.42	12.22	QP	36.64	40	3.36	352	301
	199.416	25.93	11.61	QP	37.54	40	2.46	361	354
	216.032	25.16	11.96	QP	37.12	40	2.88	310	153
	270.541	28.88	14.24	QP	43.12	47	3.88	210	130
	995.987	16.99	27.99	QP	44.98	47	2.02	100	170

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	121.689	25.17	12.75	QP	37.92	40	2.08	110	130
	199.318	25.11	11.61	QP	36.72	40	3.28	142	60
	216.032	25.06	11.96	QP	37.02	40	2.98	160	155
	398.863	26.68	17.86	QP	44.54	47	2.46	325	220
	996.814	16.83	27.99	QP	44.82	47	2.18	400	185

Note 1. Correction Factor = Antenna factor + Cable loss - Preamplifier
2. The formula of measured value as: Test Result = Corrected Reading + Correction Factor
3. Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average
4. All not in the table noted test results are more than 20 dB below the relevant limits.

Conducted Emission

Emission

Standard : EN 55022

Device : DG94 SERIES DG094 XXXXXXX
(X→ 0~9, A~Z)

Date : Dec 13, 2006

Class : A

Temperature : 23.9 °C
Pressure : 921 hPa
Rel. humidity : 51 %

Frequency Range	Description of test	Network	Passed	Failed	Number of rechecks
150 kHz - 30 MHz	Power line	R S	☒	☐	0
150 kHz - 30 MHz	Telecommunication line	FCC	☐	☐	0

Comment: See attached diagram as appendix C.

Standard : EN 55022

Device : DG94 SERIES DG094 XXXXXXX

(X→ 0~9, A~Z)

Date : Dec 13, 2006

Class : A

Temperature	:	23.9 °C
Pressure	:	921 hPa
Rel. humidity	:	51 %

CD-ROM Mode

LISN type	Frequency Marker	Corrected Reading (dBuV)		Correction Factor	Test Result (dBuV)		Compliance Limit (dBuV)		Margin (dB)	
	MHz	QP	AV	dB	QP	AV	QP	AV	QP	AV
N	0.18	55.37	45.77	10.1	65.47	55.87	79	66	13.53	10.13
	3.78	57.65	41.84	10.1	67.75	51.94	73	60	5.25	8.06
	13.67	53.23	37.52	10.1	63.33	47.62	73	60	9.67	12.38

LISN type	Frequency Marker	Corrected Reading (dBuV)		Correction Factor	Test Result (dBuV)		Compliance Limit (dBuV)		Margin (dB)	
	MHz	QP	AV	dB	QP	AV	QP	AV	QP	AV
L1	0.18	48.72	39.56	10.1	58.82	49.66	79	66	20.18	16.34
	4.155	53.21	36.56	10.1	63.31	46.66	73	60	9.69	13.34
	10.51	58.47	37.81	10.1	68.57	47.91	73	60	4.43	12.09

Note: 1. The formula of measured value as: Test Result = Corrected Reading + Correction Factor
2. The Correction Factor = Cable Loss + LISN Insertion Loss + Pulse Limit Loss
3. Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average
4. All not in the table noted test results are more than 20 dB below the relevant limits.

Standard : EN 55022

Device : DG94 SERIES DG094 XXXXXXX
(X→ 0~9, A~Z)

Date : Dec 13, 2006

Class : A

Temperature	: 23.9 °C
Pressure	: 921 hPa
Rel. humidity	: 51 %

HD Mode

LISN type	Frequency Marker	Corrected Reading (dBuV)		Correction Factor	Test Result (dBuV)		Compliance Limit (dBuV)		Margin (dB)	
	MHz	QP	AV	dB	QP	AV	QP	AV	QP	AV
N	180.01	48.7	38.34	10.1	58.80	48.44	79	66	20.20	17.56
	3.78	34.5	31.18	10.1	44.60	41.28	73	60	28.40	18.72
	10.80	38.0	24.05	10.1	48.10	34.15	73	60	24.90	25.85

LISN type	Frequency Marker	Corrected Reading (dBuV)		Correction Factor	Test Result (dBuV)		Compliance Limit (dBuV)		Margin (dB)	
	MHz	QP	AV	dB	QP	AV	QP	AV	QP	AV
L1	0.175	47.56	40.75	10.1	57.66	50.85	79	66	21.34	15.15
	3.235	32.66	25.04	10.1	42.76	35.14	73	60	30.24	24.86
	13.47	39.80	26.83	10.1	49.90	36.93	73	60	23.1	23.07

Note: 1. The formula of measured value as: Test Result = Corrected Reading + Correction Factor
2. The Correction Factor = Cable Loss + LISN Insertion Loss + Pulse Limit Loss
3. Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average
4. All not in the table noted test results are more than 20 dB below the relevant limits.

Electrostatic Discharge

ESD

Standard : EN 61000 - 4 - 2

Device : DG94 SERIES DG094 XXXXXXX

(X→ 0~9, A~Z)

Date : Dec 18, 2006

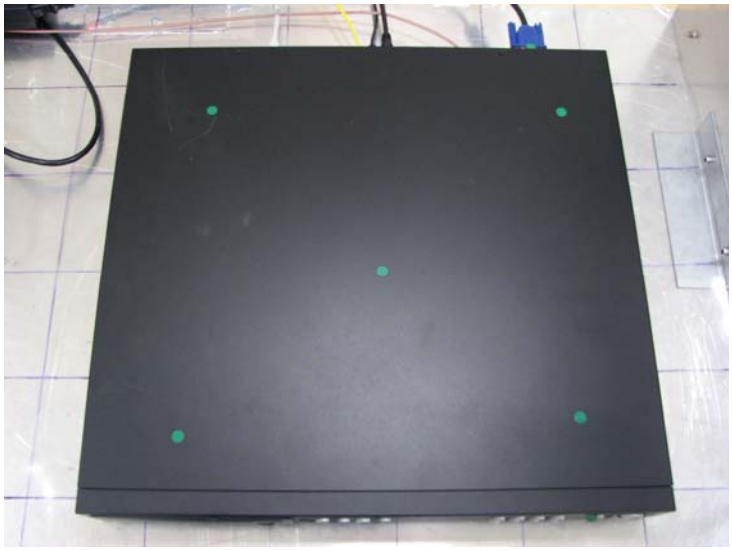
Temperature : 24.8 °C
Pressure : 990 hPa
Rel. humidity : 50 %

CD-ROM & HD Mode

Test point	Table (T) Floor (F)	Contact (C) Air (A)	Voltage (kV)	Polarity (+ / -)	Note
Housing	T	A	2, 4, 8	+ / -	A
Housing	T	C	2, 4	+ / -	A
Indirect	T	C	2, 4	+ / -	A
LED	T	A	2, 4, 8	+ / -	A
Display	T	C	2, 4	+ / -	NA

ESD discharge points

The top of EUT

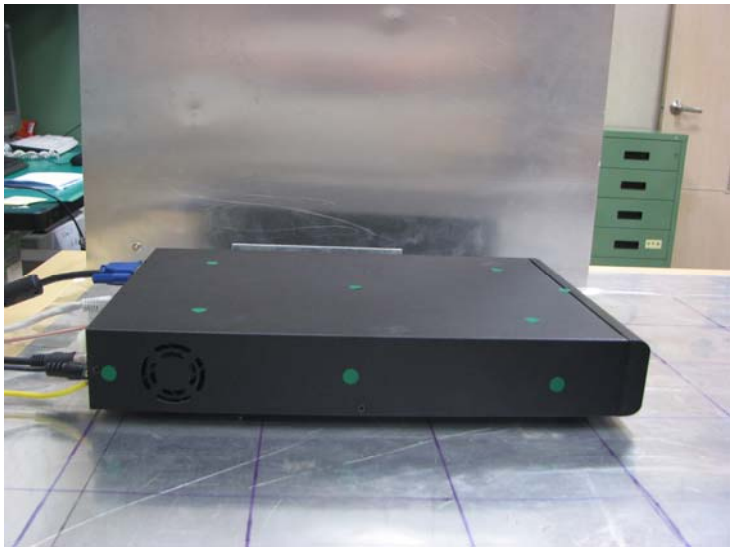


The bottom of EUT

The front of EUT

The back of EUT

The left of EUT



The right of EUT

Note:

- A: Normal performance within the specification.
- B: Temporary degradation or less of function or performance which is self recoverable
- C: Temporary degradation or loss of function or perform. which requires. operate intervention or system reset
- D: Degradation or loss of function which is not recoverable due to damage of equipment (components) or software, or loss of data.

NA: Not Applicable

Interference Immunity Against Electromagnetic Irradiation

RF Field

Standard : EN 61000 – 4 – 3

Device : DG94 SERIES DG094 XXXXXXX
(X→ 0~9, A~Z)

Date : Dec 18, 2006

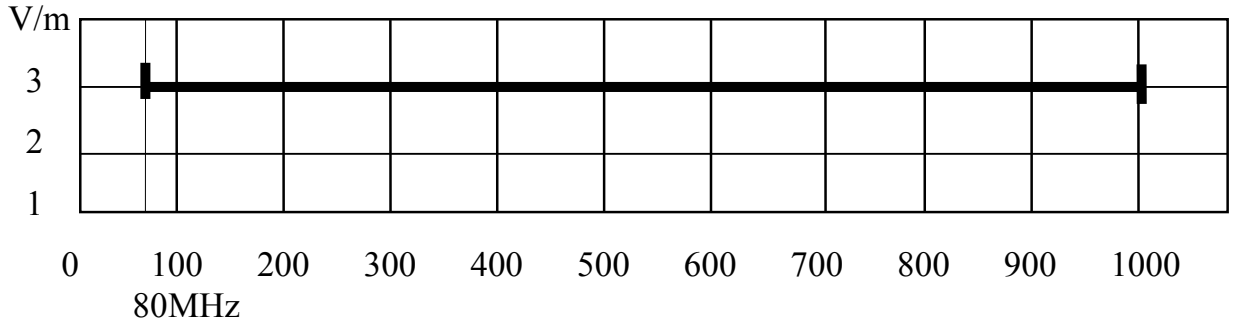
Temperature	:	24.8 °C
Pressure	:	990 hPa
Rel. humidity	:	50 %

CD-ROM & HD Mode

Testequipment : Anechoic Chamber, Generator SMG (R&S), Monitoring System, Amplifier 10W1000/150L (ar), Antenna SAS-200/521 (AHS)

Severity Level : 2 (3V/m) Modulation Frequency : 1kHz (80%AM)

Pulsmodulation : 1 Hz (0,5s on;0,5s off)



Note :

☒ A : No loss of performance or function

☐ B : Temporary loss of function or performance which is self recoverable

☐ C : Temporary loss of function or perform. which req. operator intervention or system reset

☐ D : Loss of function which is not recoverable

Registration number: W6M20612-7649-E-11

Electrical Fast Transients

Burst

Standard : EN 61000 – 4 – 4

Device : DG94 SERIES DG094 XXXXXXX
(X→ 0~9, A~Z)

Date : Dec 18, 2006

Temperature	:	24.8 °C
Pressure	:	990 hPa
Rel. humidity	:	50 %

CD-ROM & HD Mode

Testport	Voltage (kV)	Polarity (+ / -)	Waveform T_r / T_h	Repetiton Frequency (kHz)	Note
AC-Power line	1	+ / -	5/50 ns	5	B
Signal line_BNC	0,5	+ / -	5/50 ns	5	B
Signal line_LAN	0,5	+ / -	5/50 ns	5	B

Note :
A : No loss of performance or function
B : Temporary loss of function or performance which is self recoverable
C : Temporary loss of function or perform. which req. operate. intervention or system reset
D : Loss of function which is not recoverable

Transients common & diff. mode

Surge

Standard : EN 61000-4-5

Device : DG94 SERIES DG094 XXXXXXX
(X→ 0~9, A~Z)

Date : Dec 18, 2006

Temperature	:	24.8 °C
Pressure	:	990 hPa
Rel. humidity	:	50 %

CD-ROM & HD Mode

Test mode	Voltage (kV)	Waveform T_r / T_h	Note
AC-line to line	1	1.2/50 µs	A

Note :
A : No loss of performance or function
B : Temporary loss of function or performance which is self recoverable
C : Temporary loss of function or perform. which req. operate. intervention or system reset
D : Loss of function which is not recoverable

continues conducted

RF - common mode

Standard : EN 61000 - 4 - 6

Device : DG94 SERIES DG094 XXXXXXX
(X→ 0~9, A~Z)

Date : Dec 18, 2006

Temperature : 24.8 °C
Pressure : 990 hPa
Rel. humidity : 50 %

CD-ROM & HD Mode

Test port	Voltage (rms)	Modulation Frequency	Frequency Range	Note
AC-Power line	3	1 kHz	150 kHz - 80 MHz	A
Signal line_BNC	3	1 kHz	150 kHz - 80 MHz	A
Signal line_LAN	3	1 kHz	150 kHz - 80 MHz	A

Note : A : No loss of performance or function
B : Temporary loss of function or performance which is self recoverable
C : Temporary loss of function or perform. which req. operate. intervention or system reset
D : Loss of function which is not recover

Voltage dips and interruption

V - Dips

Standard : EN 61000 - 4 - 11

Device : DG94 SERIES DG094 XXXXXXX

(X→ 0~9, A~Z)

Date : Dec 18, 2006

Temperature	:	24.8 °C
Pressure	:	990 hPa
Rel. humidity	:	50 %

CD-ROM & HD Mode

Reduction of supply voltage of	Voltage in % (in V)	Duration in ms	Note
Interruption (> 95 %)	0% (0 V)	250 (5 s)	C
Dips (>95 %)	5% (12 V)	0,5 (10ms)	A
Dips (30 %)	70% (161 V)	25 (500 ms)	A

Note : A : No loss of performance or function

B : Temporary loss of function or performance which is self recoverable

C : Temporary loss of function or perform. which req. operate. intervention or system reset

D : Loss of function which is not recoverable

Current Harmonics

Harmonics

Standard : EN 61000 - 3 - 2

Device : DG94 SERIES DG094 XXXXXXX

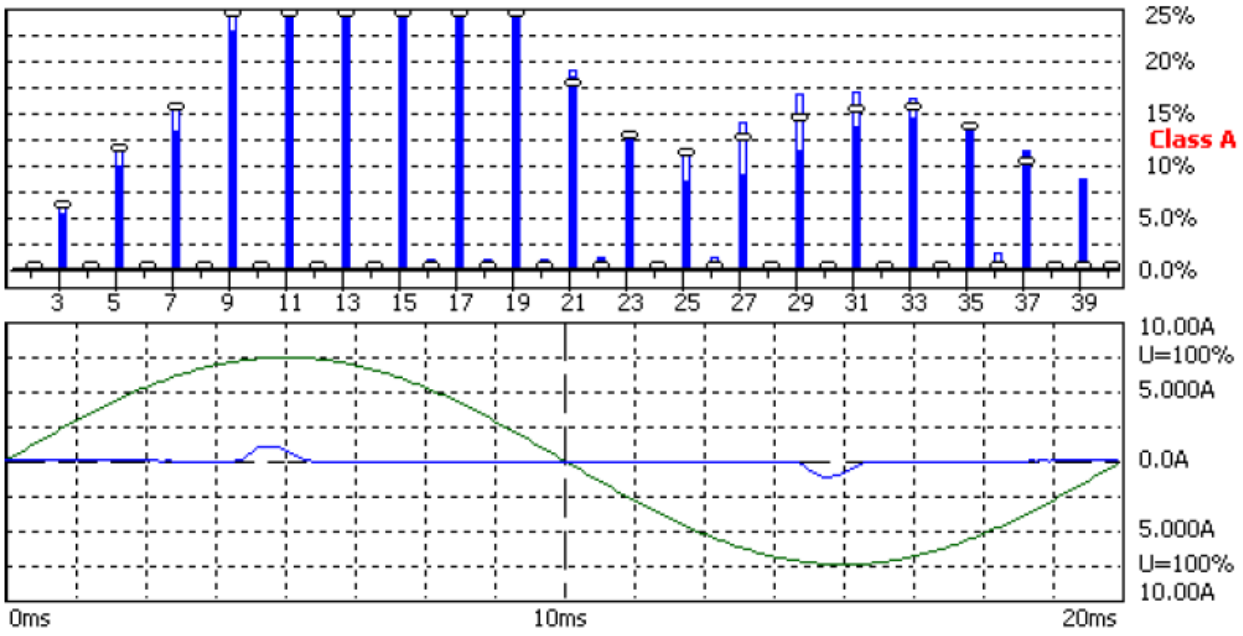
(X→ 0~9, A~Z)

Date : Dec 12, 2006

Class : A

Temperature	:	24.8 °C
Pressure	:	990 hPa
Rel. humidity	:	50 %

CD-ROM Mode



Passed : **yes** / no

Comment: See attached diagram as next page

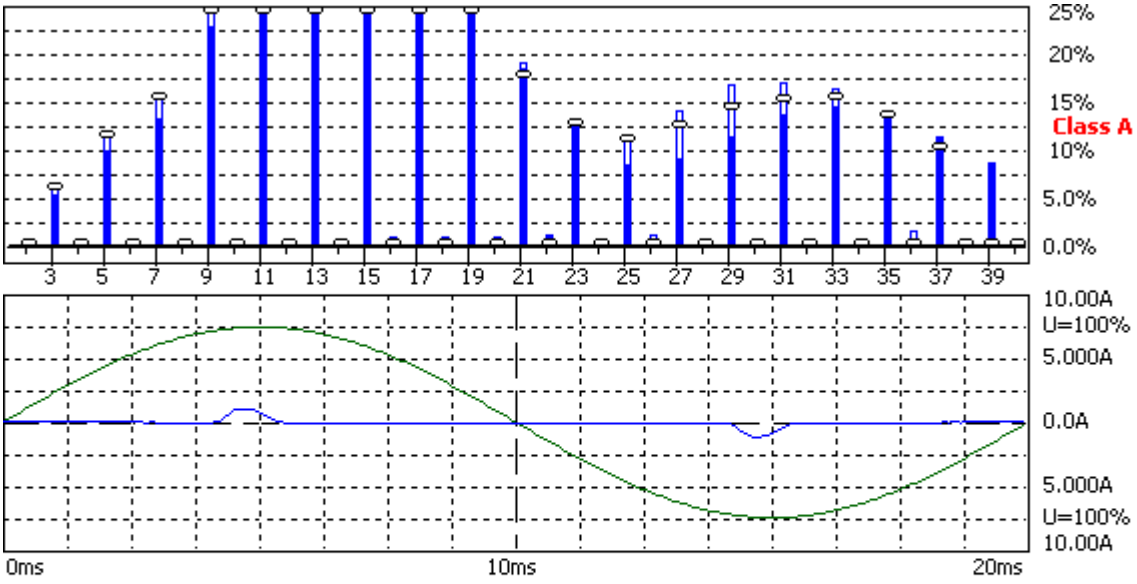
Harmonic Emission - IEC 61000-3-2 , EN 61000-3-2 , (EN60555-2)

Comply: IEC 61000-3-2 Ed.2.1 :2001 (incl. Amd.14) - IEC 61000-4-7 Ed.1.0 :1991

W6M20612-7649 CD-ROM Mode

HARCS Setup File : unnamed
HARCS Report File : unnamed

Operator : Jason
Unit : DVR
Serialnumber : DG94 SERIES DG094XXXXXXX
Remarks



Harmonic Emission - IEC 61000-3-2 , EN 61000-3-2 , (EN60555-2) 2006/12/12 下午 04:3

Urms =	230.1	V	P =	27.98	W	THC =	0.246 A
Irms =	0.269	A	pf =	0.453			

Range: 10 A
V-nom: 230 V
TestTime: 5 min (100%)

Test completed, Result: PASSED

HAR-1000 EMC-Partner

Full Bar : Actual Values
Empty Bar : Maximum Values
Blue : Current , Green : Voltage , Red : Failed

Measurement

Date : 2006/12/12 ¤U¤È 04:3 V3.16

Urms =	230.1V	Freq =	50.000	Range:	10 A
Irms =	0.269A	Ipk =	1.152A	cf =	4.291
P =	27.98W	Pap =	61.80VA	pf =	0.453
THDi =	89.0 %	THDu =	0.10 %	Class A	

Test - Time : 5min (100 %)

Test completed, Result: PASSED

Order	Freq. [Hz]	Iavg [A]	Iavg%L [%]	Imax [A]	Imax%L [%]	Limit [A]	Status
1	50	0.1453		0.1526			
2	100	0.0000	0.0000	0.0000	0.0000	1.0800	
3	150	0.1331	5.7851	0.1398	6.0770	2.3000	
4	200	0.0000	0.0000	0.0000	0.0000	0.4300	
5	250	0.1276	11.190	0.1324	11.618	1.1400	
6	300	0.0000	0.0000	0.0000	0.0000	0.3000	
7	350	0.1172	15.219	0.1215	15.774	0.7700	
8	400	0.0000	0.0000	0.0006	0.2654	0.2300	
9	450	0.1038	25.940	0.1068	26.703	0.4000	
10	500	0.0000	0.0000	0.0006	0.3317	0.1840	
11	550	0.0879	26.634	0.0909	27.558	0.3300	
12	600	0.0000	0.0000	0.0006	0.3981	0.1533	
13	650	0.0726	34.587	0.0739	35.168	0.2100	
14	700	0.0000	0.0000	0.0006	0.4644	0.1314	
15	750	0.0574	38.249	0.0574	38.249	0.1500	
16	800	0.0000	0.0000	0.0006	0.5307	0.1150	
17	850	0.0427	32.281	0.0427	32.281	0.1324	
18	900	0.0000	0.0000	0.0006	0.5971	0.1022	
19	950	0.0293	24.740	0.0299	25.255	0.1184	
20	1000	0.0000	0.0000	0.0006	0.6634	0.0920	
21	1050	0.0189	17.660	0.0201	18.799	0.1071	
22	1100	0.0000	0.0000	0.0006	0.7298	0.0836	
23	1150	0.0122	12.478	0.0122	12.478	0.0978	
24	1200	0.0000	0.0000	0.0000	0.0000	0.0767	
25	1250	0.0098	10.851	0.0098	10.851	0.0900	
26	1300	0.0000	0.0000	0.0006	0.8625	0.0708	
27	1350	0.0104	12.451	0.0116	13.916	0.0833	
28	1400	0.0000	0.0000	0.0000	0.0000	0.0657	
29	1450	0.0110	14.160	0.0128	16.520	0.0776	
30	1500	0.0000	0.0000	0.0000	0.0000	0.0613	
31	1550	0.0110	15.137	0.0122	16.819	0.0726	
32	1600	0.0000	0.0000	0.0000	0.0000	0.0575	
33	1650	0.0104	15.218	0.0110	16.113	0.0682	
34	1700	0.0000	0.0000	0.0000	0.0000	0.0541	
35	1750	0.0085	13.292	0.0085	13.292	0.0643	
36	1800	0.0000	0.0000	0.0006	1.1942	0.0511	
37	1850	0.0061	10.037	0.0067	11.041	0.0608	
38	1900	0.0000	0.0000	0.0000	0.0000	0.0484	

39	1950	0.0000	0.0000	0.0049	8.4635	0.0577
40	2000	0.0000	0.0000	0.0000	0.0000	0.0460

Current Harmonics

Harmonics

Standard : EN 61000 - 3 - 2

Device : DG94 SERIES DG094 XXXXXXX

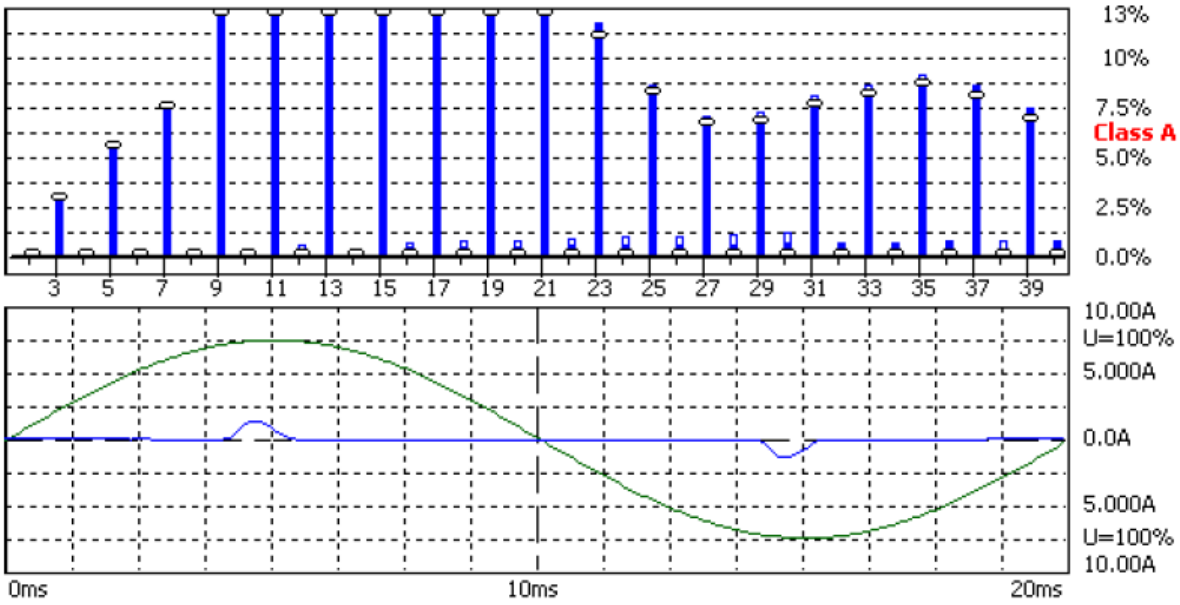
(X→ 0~9, A~Z)

Date : Dec 15, 2006

Class : A

Temperature	:	24.8 °C
Pressure	:	990 hPa
Rel. humidity	:	50 %

HD Mode



Passed : **yes** / no

Comment: See attached diagram as next page

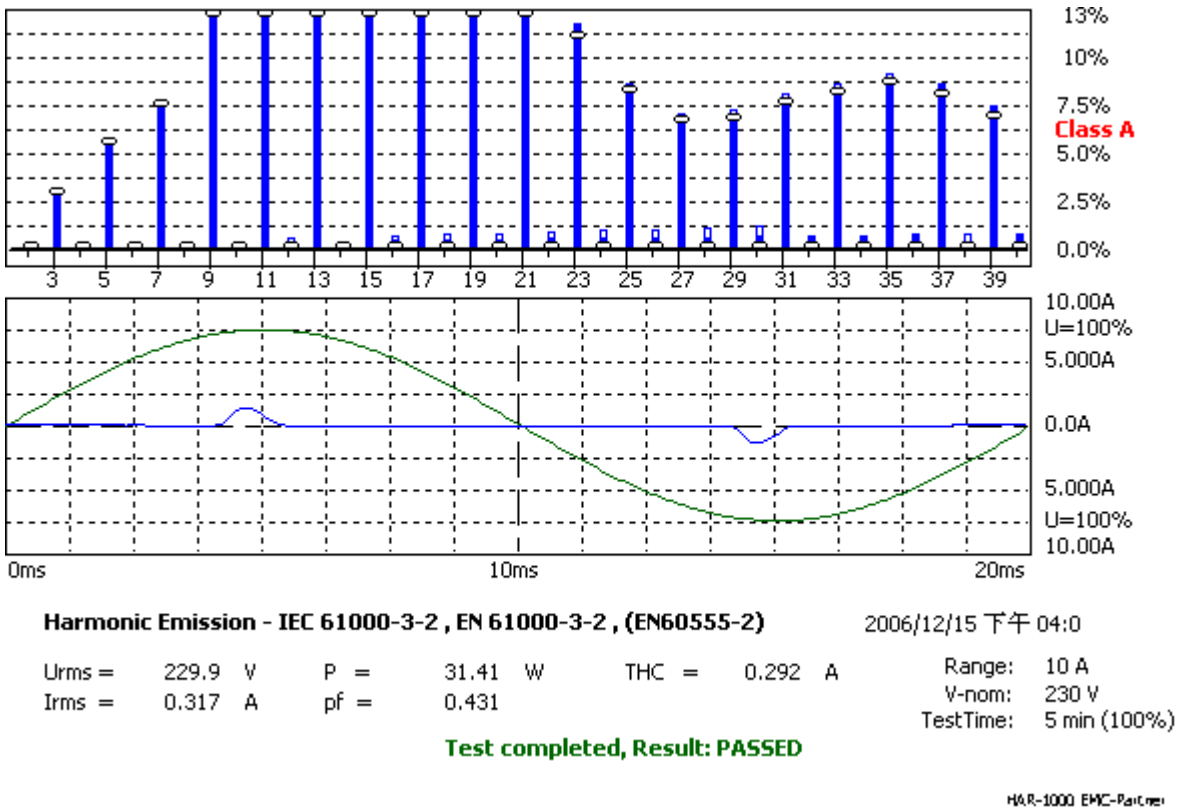
Harmonic Emission - IEC 61000-3-2 , EN 61000-3-2 , (EN60555-2)

Comply: IEC 61000-3-2 Ed.2.1 :2001 (incl. Amd.14) - IEC 61000-4-7 Ed.1.0 :1991

W6M20612-7649 HD Mode

HARCS Setup File : unnamed
HARCS Report File : unnamed

Operator : Jason
Unit : DVR
Serialnumber : DG94 SERIES DG094XXXXXXX
Remarks



Full Bar : Actual Values
Empty Bar : Maximum Values
Blue : Current , Green : Voltage , Red : Failed

Measurement

Date : 2006/12/15 ¤U¤È 04:0 V3.16

Urms = 229.9V Freq = 49.987 Range: 10 A
Irms = 0.317A Ipk = 1.411A cf = 4.446
P = 31.41W Pap = 72.97VA pf = 0.431
THDi = 90.1 % THDu = 0.10 % Class A

Test - Time : 5min (100 %)

Test completed, Result: PASSED

Order	Freq. [Hz]	Iavg [A]	Iavg%L [%]	Imax [A]	Imax%L [%]	Limit [A]	Status
1	50	0.1392		0.1428			
2	100	0.0000	0.0000	0.0000	0.0000	1.0800	
3	150	0.1282	5.5728	0.1312	5.7055	2.3000	
4	200	0.0000	0.0000	0.0000	0.0000	0.4300	
5	250	0.1233	10.815	0.1257	11.029	1.1400	
6	300	0.0000	0.0000	0.0006	0.2035	0.3000	
7	350	0.1147	14.902	0.1178	15.298	0.7700	
8	400	0.0000	0.0000	0.0006	0.2654	0.2300	
9	450	0.1050	26.245	0.1074	26.855	0.4000	
10	500	0.0000	0.0000	0.0006	0.3317	0.1840	
11	550	0.0928	28.113	0.0958	29.038	0.3300	
12	600	0.0000	0.0000	0.0012	0.7961	0.1533	
13	650	0.0806	38.365	0.0830	39.528	0.2100	
14	700	0.0000	0.0000	0.0006	0.4644	0.1314	
15	750	0.0671	44.759	0.0690	45.980	0.1500	
16	800	0.0000	0.0000	0.0012	1.0615	0.1150	
17	850	0.0537	40.582	0.0562	42.426	0.1324	
18	900	0.0000	0.0000	0.0012	1.1942	0.1022	
19	950	0.0415	35.048	0.0433	36.594	0.1184	
20	1000	0.0000	0.0000	0.0012	1.3269	0.0920	
21	1050	0.0305	28.483	0.0323	30.192	0.1071	
22	1100	0.0000	0.0000	0.0012	1.4595	0.0836	
23	1150	0.0214	21.837	0.0226	23.085	0.0978	
24	1200	0.0000	0.0000	0.0012	1.5922	0.0767	
25	1250	0.0146	16.276	0.0153	16.954	0.0900	
26	1300	0.0000	0.0000	0.0012	1.7249	0.0708	
27	1350	0.0110	13.184	0.0116	13.916	0.0833	
28	1400	0.0000	0.0000	0.0012	1.8576	0.0657	
29	1450	0.0104	13.373	0.0110	14.160	0.0776	
30	1500	0.0000	0.0000	0.0012	1.9903	0.0613	
31	1550	0.0110	15.137	0.0116	15.978	0.0726	
32	1600	0.0000	0.0000	0.0006	1.0615	0.0575	
33	1650	0.0110	16.113	0.0116	17.008	0.0682	
34	1700	0.0000	0.0000	0.0006	1.1278	0.0541	
35	1750	0.0110	17.090	0.0116	18.039	0.0643	
36	1800	0.0000	0.0000	0.0006	1.1942	0.0511	
37	1850	0.0098	16.059	0.0104	17.063	0.0608	
38	1900	0.0000	0.0000	0.0006	1.2605	0.0484	

39	1950	0.0079	13.753	0.0085	14.811	0.0577
40	2000	0.0000	0.0000	0.0006	1.3269	0.0460

Voltage Fluctuation

Flicker

Standard : EN 61000 - 3 - 3

Device : DG94 SERIES DG094 XXXXXXX

(X→ 0~9, A~Z)

Date : Dec 12, 2006

Temperature	:	24.8 °C
Pressure	:	990 hPa
Rel. humidity	:	50 %

CD-ROM Mode

P_{st}	0,07
$P_{lt} < 0,65$	pass
dc < 3,3%	pass
dt < 3%	pass
d max (%)	pass

Passed : **yes** / no

Comment: See attached diagram as next page

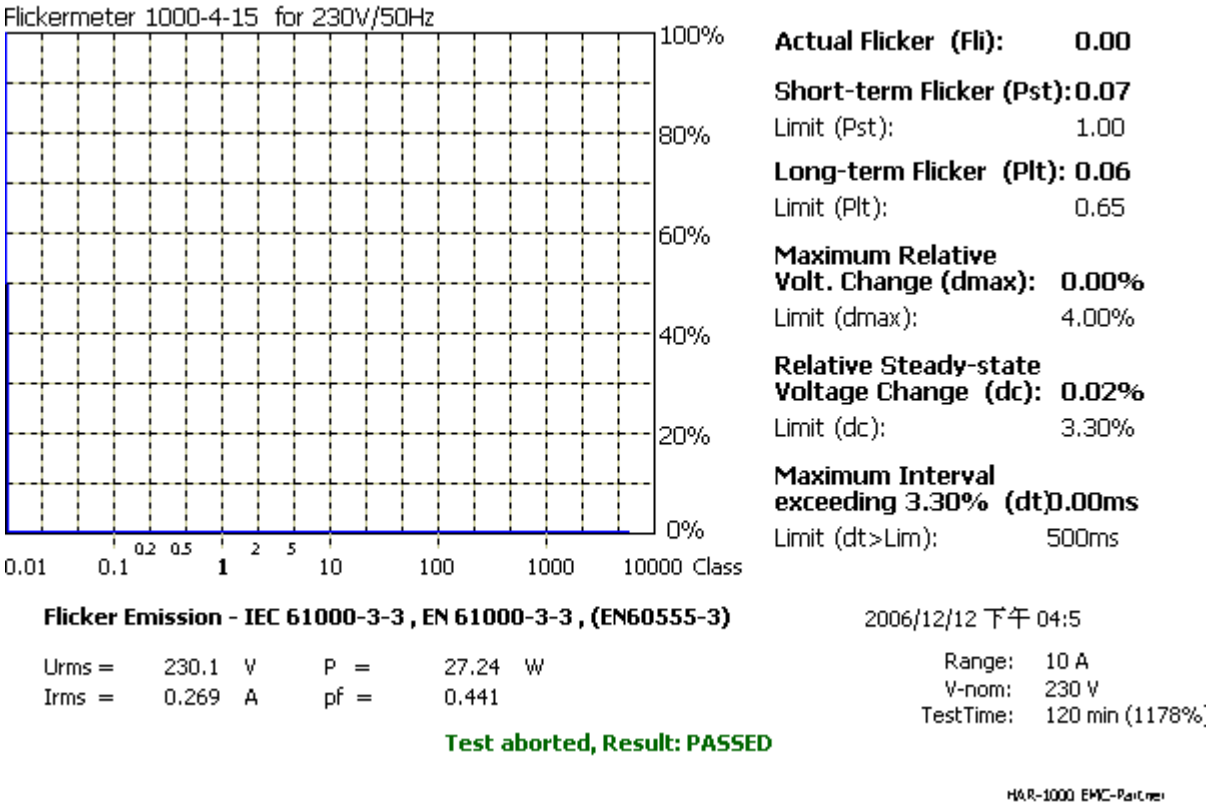
Flicker Emission - IEC 61000-3-3 , EN 61000-3-3 , (EN60555-3)

Comply: IEC 61000-3-3 Ed.1.1 :2002 (incl. Amd.1) - IEC 61000-4-15 Ed.1.0 :1997 (

W6M20612-7649 CD-ROM Mode

HARCS Setup File : unnamed
HARCS Report File : unnamed

Operator : Jason
Unit : DVR
Serialnumber : DG94 SERIES DG094XXXXXXX
Remarks



Full Bar : Actual Values
Empty Bar : Maximum Values
Circles : Average Values
Blue : Current , Green : Voltage , Red : Failed

Measurement

Date : 2006/12/12 ¤U¤È 04:5 V3.16

Urms =	230.1V	Freq =	50.000	Range:	10 A		
Irms =	0.269A	Ipk =	1.182A	cf =	4.400		
P =	27.24W	Pap =	61.80VA	pf =	0.441		

Test - Time : 12 x 10min = 120min (1178 %)

LIN (Line Impedance Network) : SLIN 0.24ohm +j0.15ohm N:0.16ohm +j0.10ohm

Limits :	Plt : 0.65	Pst :	1.00
	dmax : 4.00 %	dc :	3.30 %
	dtLim: 3.30 %	dt>Lim:	500ms

Test aborted, Result: PASSED

1
2
3

Voltage Fluctuation

Flicker

Standard : EN 61000 - 3 - 3

Device : DG94 SERIES DG094 XXXXXXX
(X→ 0~9, A~Z)

Date : Dec 15, 2006

Temperature	:	24.8 °C
Pressure	:	990 hPa
Rel. humidity	:	50 %

HD Mode

P_{st}	0,07
$P_{lt} < 0,65$	pass
dc < 3,3%	pass
dt < 3%	pass
d max (%)	pass

Passed : **yes** / no

Comment: See attached diagram as next page

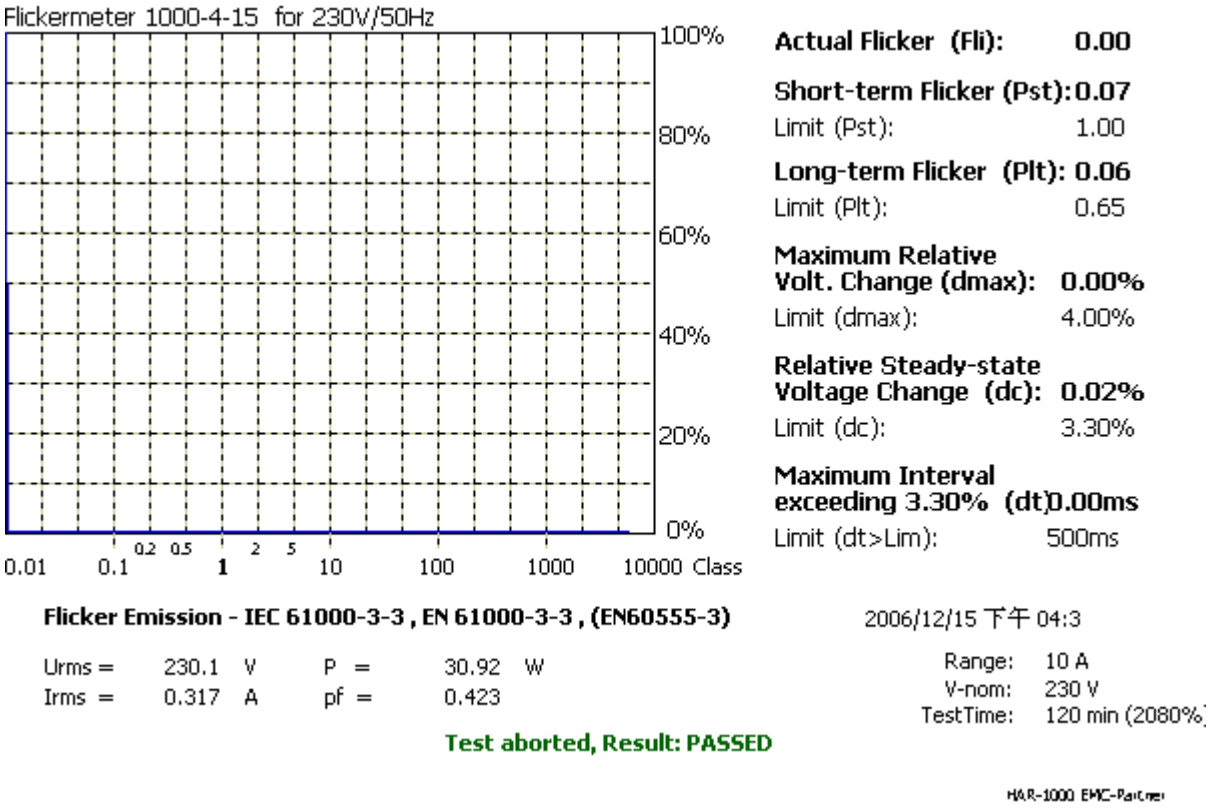
Flicker Emission - IEC 61000-3-3 , EN 61000-3-3 , (EN60555-3)

Comply: IEC 61000-3-3 Ed.1.1 :2002 (incl. Amd.1) - IEC 61000-4-15 Ed.1.0 :1997 (

W6M20612-7649 HD Mode

HARCS Setup File : unnamed
HARCS Report File : unnamed

Operator : Jason
Unit : DVR
Serialnumber : DG94 SERIES DG094XXXXXXX
Remarks



Full Bar : Actual Values
Empty Bar : Maximum Values
Circles : Average Values
Blue : Current , Green : Voltage , Red : Failed

Measurement

Date : 2006/12/15 ¤U¤È 04:3 V3.16

Urms =	230.1V	Freq =	50.000	Range:	10 A		
Irms =	0.317A	Ipk =	1.465A	cf =	4.615		
P =	30.92W	Pap =	73.03VA	pf =	0.423		

Test - Time : 12 x 10min = 120min (2080 %)

LIN (Line Impedance Network) : SLIN 0.24ohm +j0.15ohm N:0.16ohm +j0.10ohm

Limits :	Plt : 0.65	Pst :	1.00
	dmax : 4.00 %	dc :	3.30 %
	dtLim: 3.30 %	dt>Lim:	500ms

Test aborted, Result: PASSED

1
2
3

Appendix

A Radiated Emission of DG94 SERIES DG094 XXXXXXX (X→ 0~9, A~Z)
B Radiated Emission of Y3K SERIES DG094 XXXXXXX (X→ 0~9, A~Z)
and SPECO SERIES DG094 XXXXXXX (X→ 0~9, A~Z)
C Conducted Emission
D Pictures
E Set Up Photo of Radiated Emission
F Set Up Photo of Conducted Emission
G Set Up Photo of Harmonics & Flicker
H Set Up Photo of ESD
I Set Up Photo of RF-Field
J Set Up Photo of Burst
K Set Up Photo of Surge
L Set Up Photo of CS
M Set Up Photo of V-Dips

Appendix A

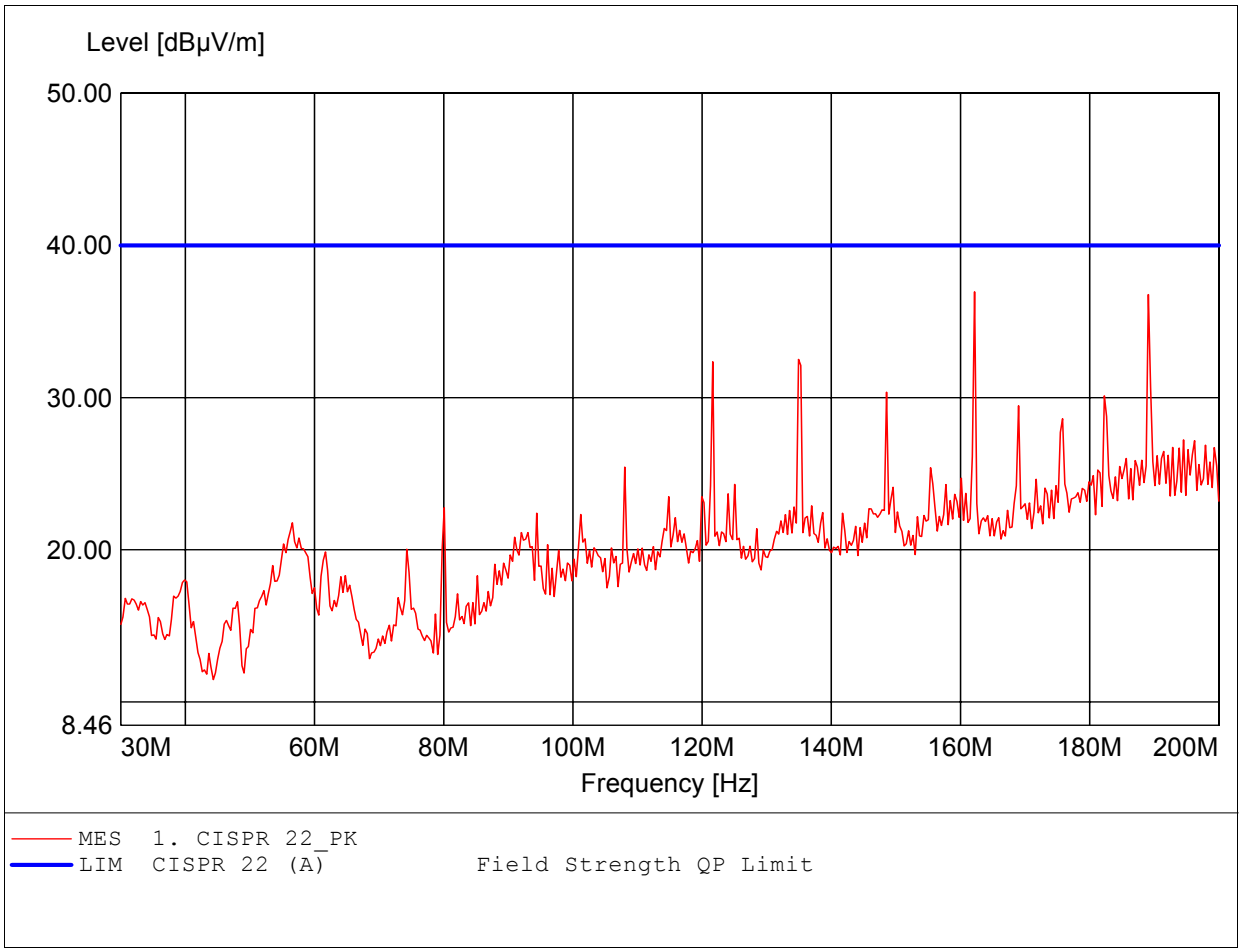
Radiated Emission of DG94 SERIES DG094 XXXXXXX (X→ 0~9, A~Z)

The measurement diagrams plots attached below are preliminary wideband scan with a peak detector and for reference only. The final test results are listed on page 26-27.

Spurious emissions under normal conditions

in accordance to the CISPR 22

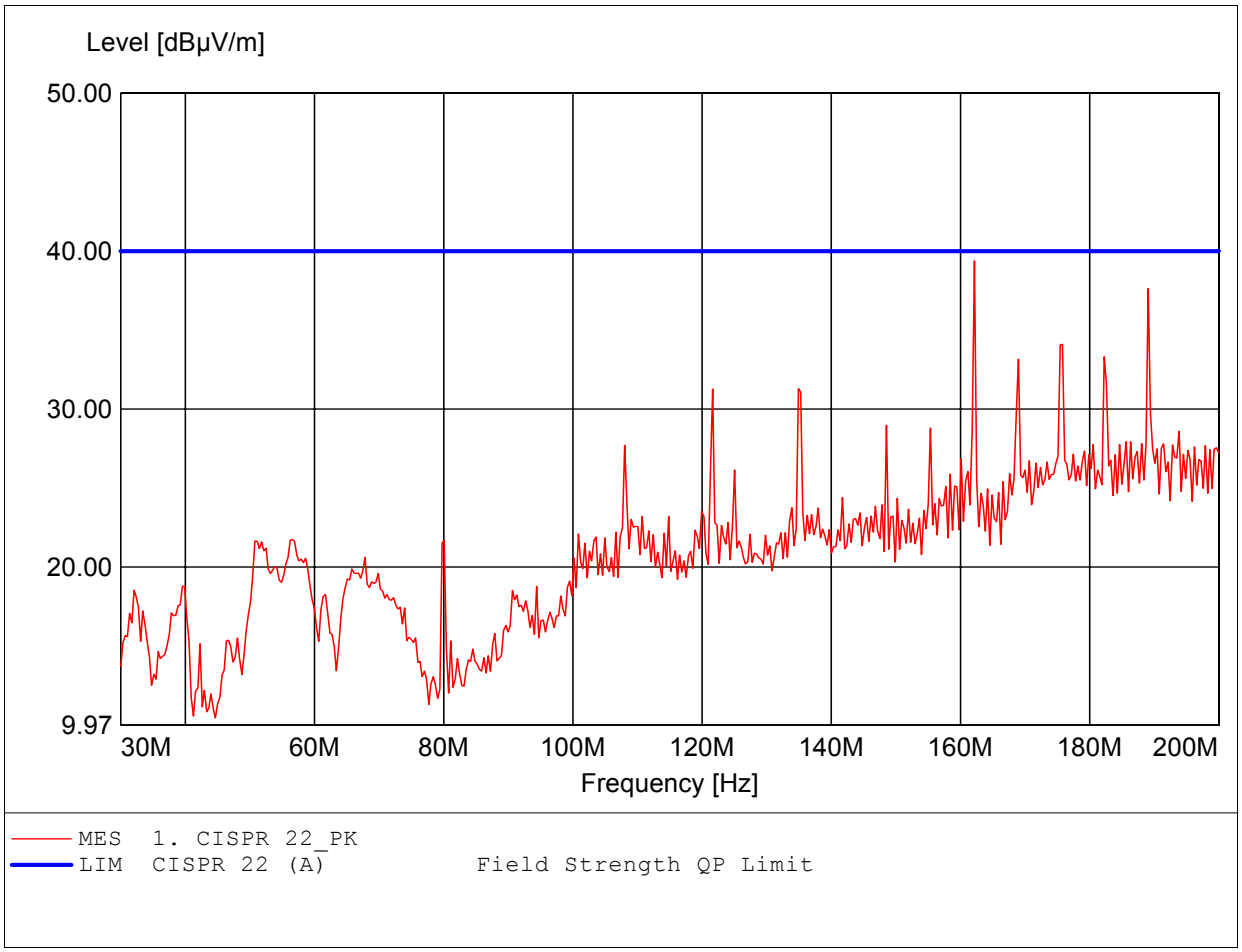
```
Order Number:          W6M20612-7649  CD-ROM Mode
Operator:              Jason
Temperature:           Temp.: 23.9°C
Tcest Specification:   Fully Anechoic Chamber
Comment 1:             Dist.: 3m, Ant.: HK 116 , Peak detector
                       Freq:162.184MHz Emax:36.95dBµV/m RBW: 100 kHz
```



Spurious emissions under normal conditions

in accordance to the CISPR 22

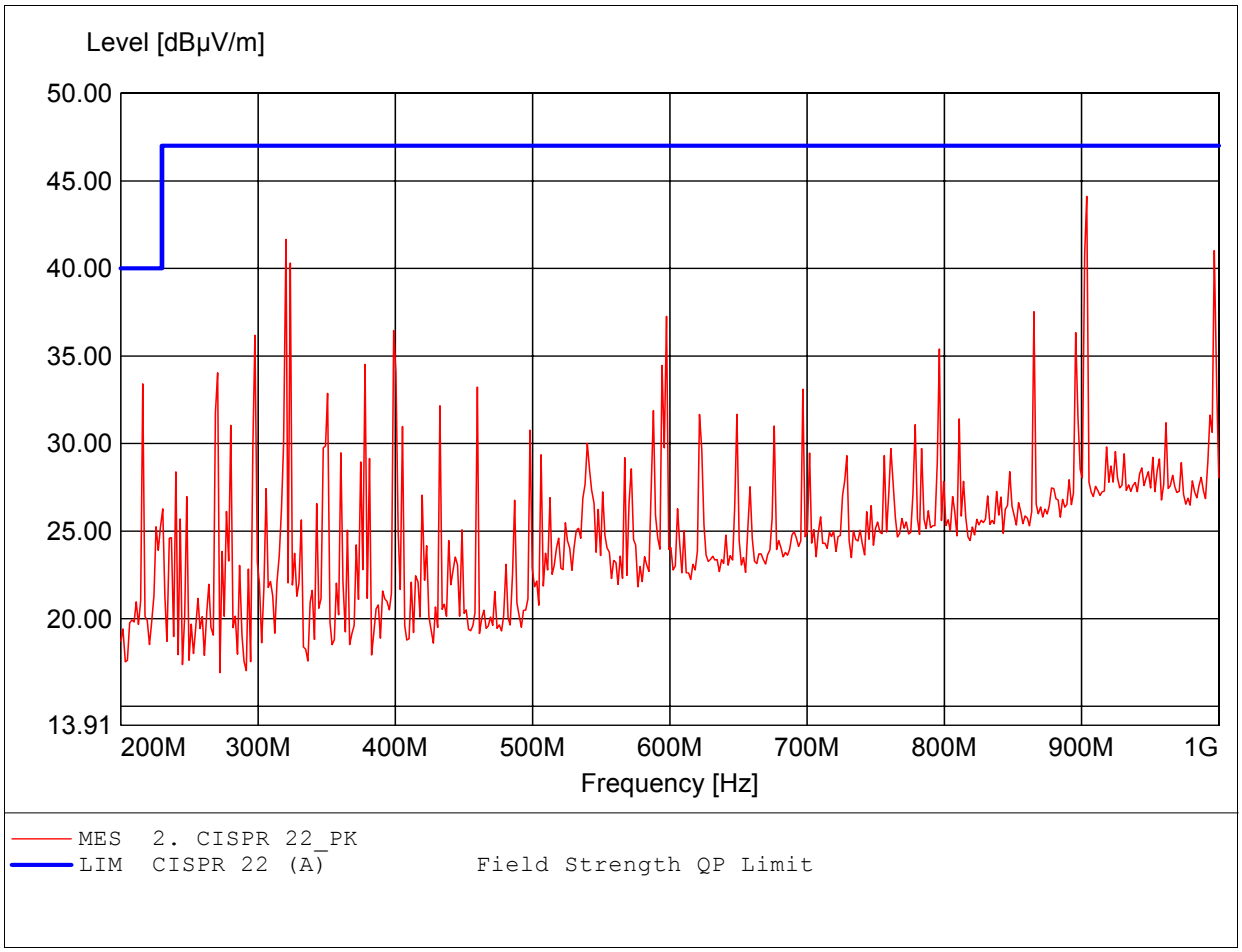
```
Order Number:          W6M20612-7649  CD-ROM Mode
Operator:              Jason
Temperature:           Temp.: 23.9°C
Tcest Specification:   Fully Anechoic Chamber
Comment 1:             Dist.: 3m, Ant.: HK 116 , Peak detector
                       Freq:162.184MHz Emax:39.91dBµV/m RBW: 100 kHz
```



Spurious emissions under normal conditions

in accordance to the CISPR 22

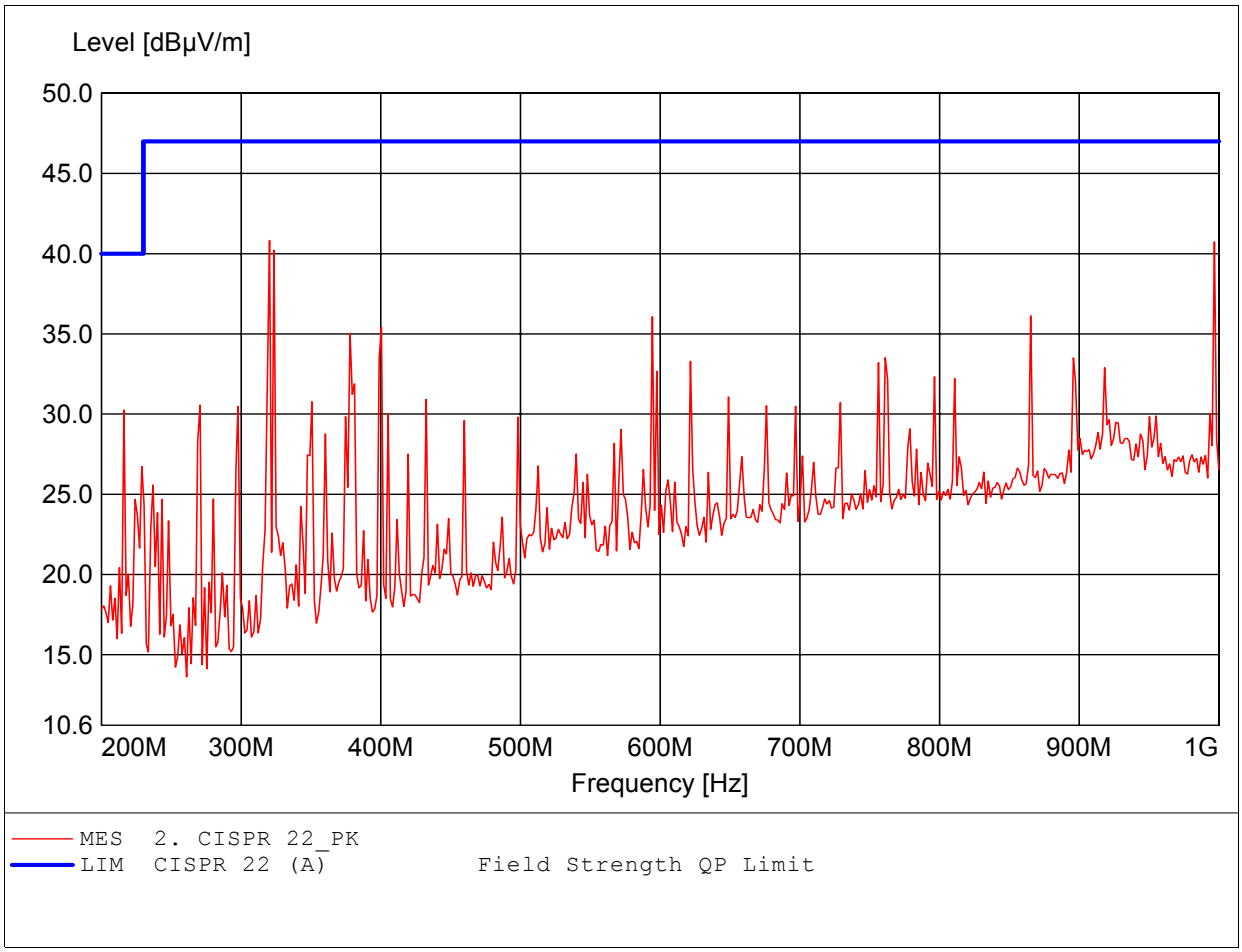
Order Number: W6M20612-7649 CD-ROM Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Tcest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:903.808MHz Emax:44.11dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

in accordance to the CISPR 22

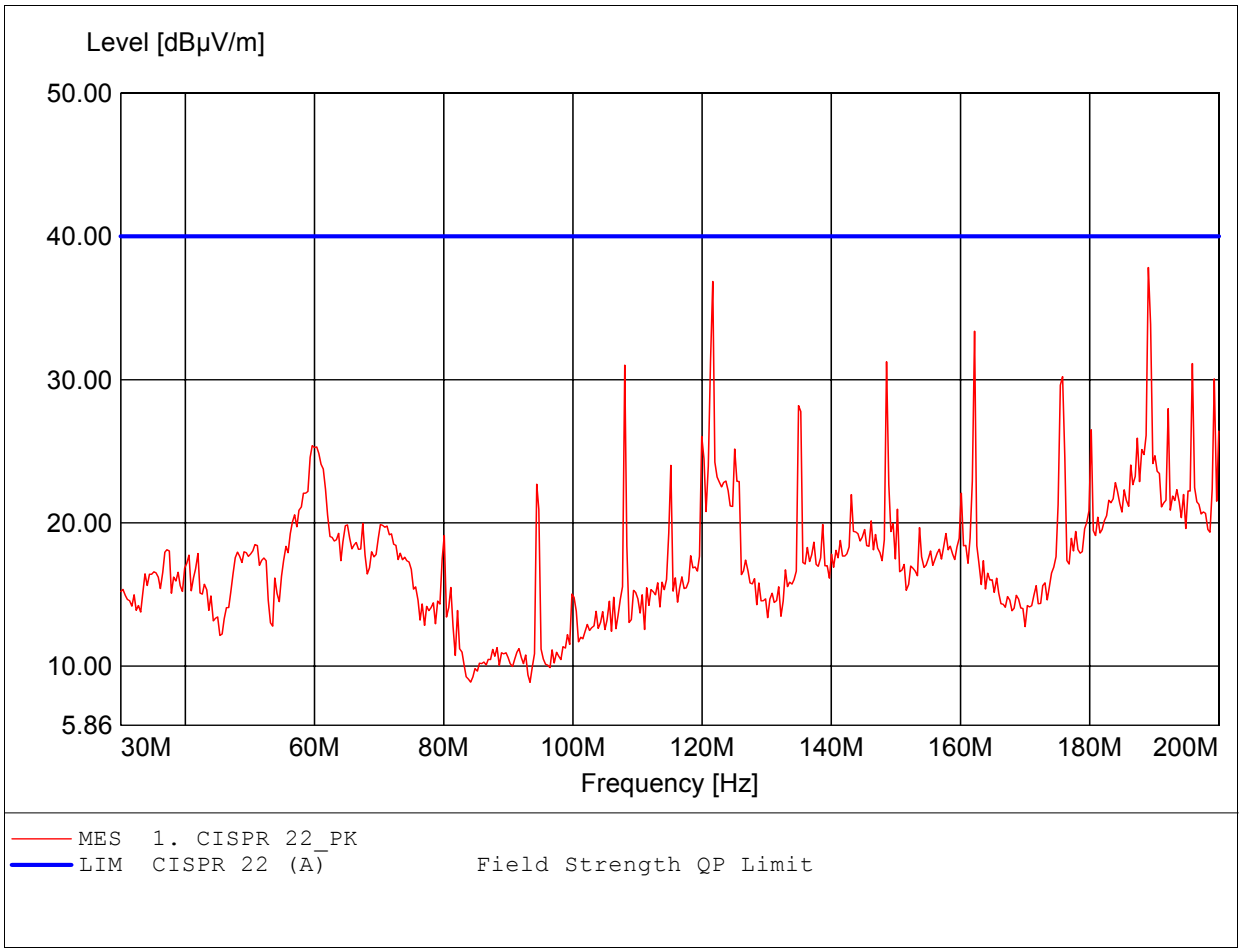
Order Number: W6M20612-7649 CD-ROM Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Tcest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:320.240MHz Emax:40.82dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

in accordance to the CISPR 22

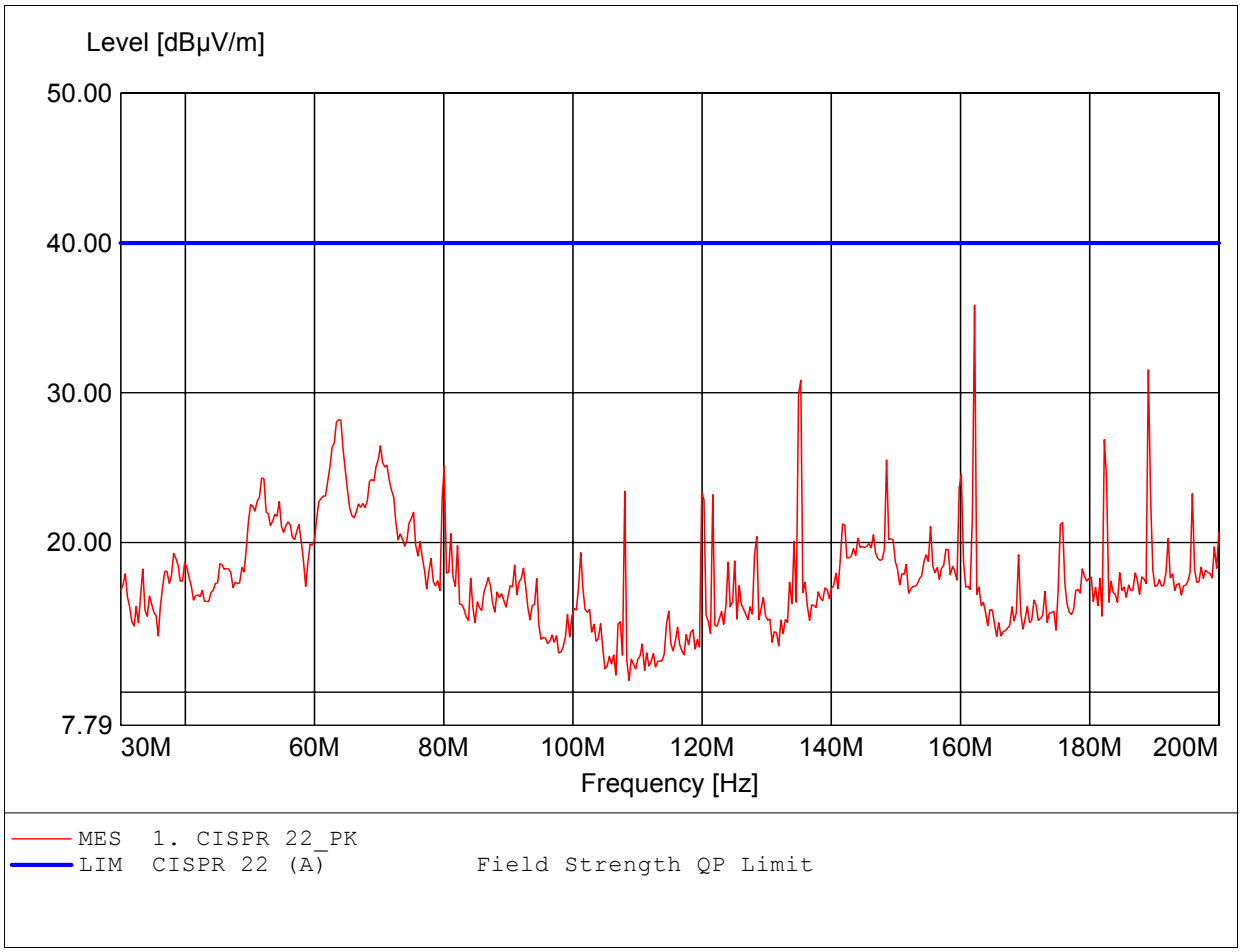
Order Number: W6M20612-7649 HD Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Tcest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:189.098MHz Emax:37.83dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

in accordance to the CISPR 22

Order Number: W6M20612-7649 HD Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Tcest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:162.184MHz Emax:35.85dBµV/m RBW: 100 kHz



Appendix B

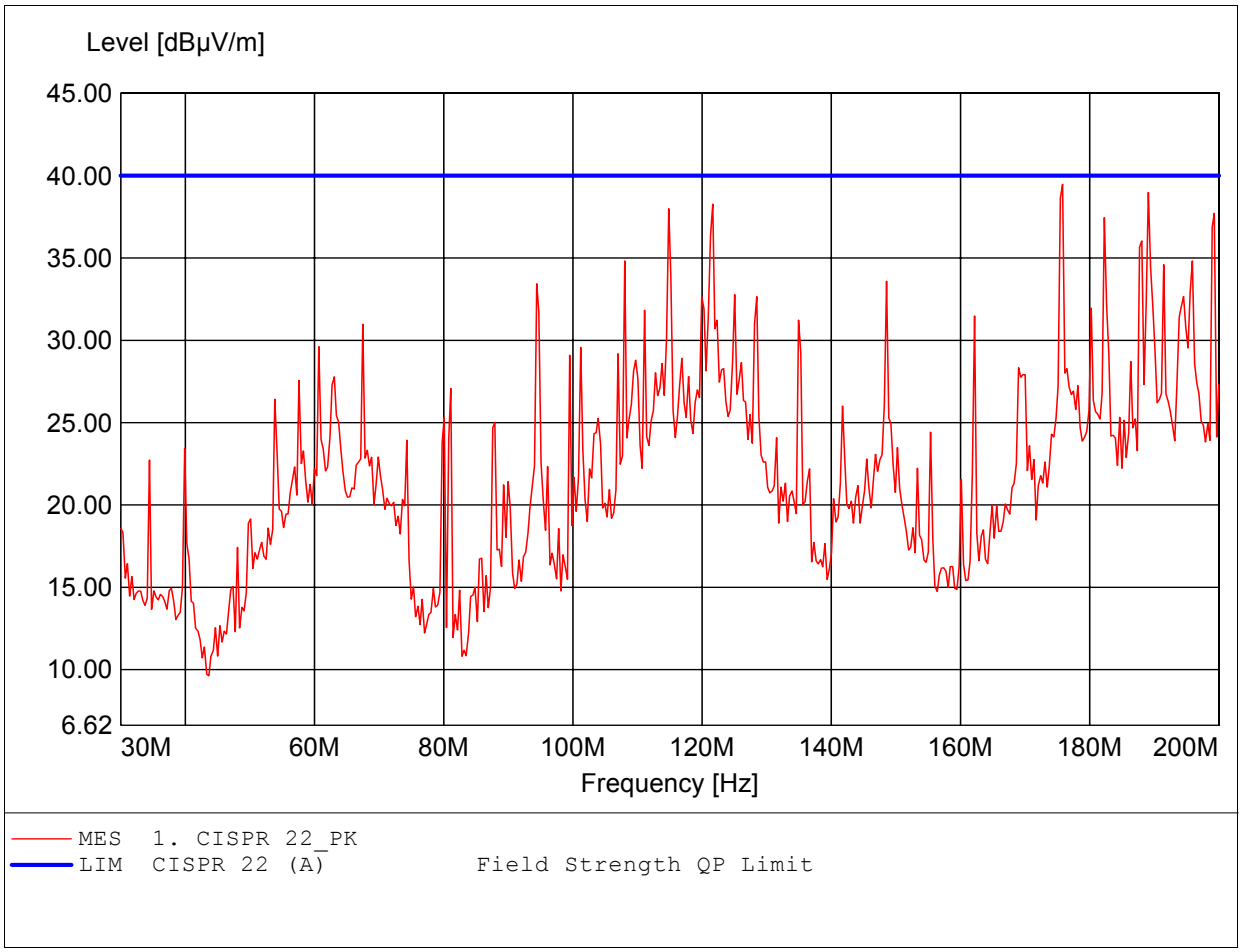
Radiated Emission of Y3K SERIES DG094 XXXXXXX (X→ 0~9, A~Z) and SPECO SERIES DG094 XXXXXXX (X→ 0~9, A~Z)

The measurement diagrams plots attached below are preliminary wideband scan with a peak detector and for reference only. The final test results are listed on page 29-30.

Spurious emissions under normal conditions

in accordance to the CISPR 22

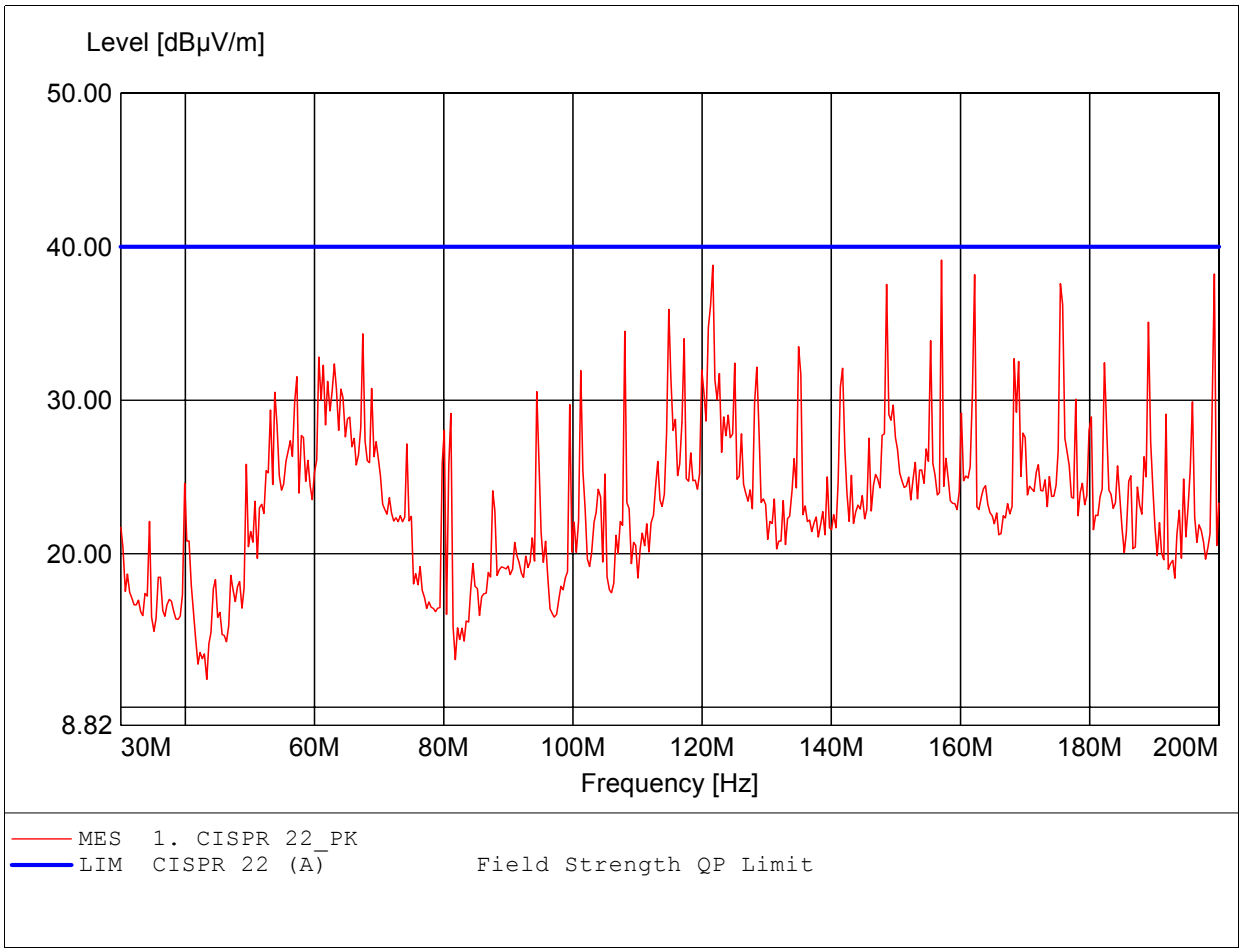
Order Number: W6M20612-7649 CD-ROM Mode
Test Site / Operator: ETS / Jason
Temperature: Temp.: 23.9°C
Tcest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:175.812MHz Emax:39.47dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

in accordance to the CISPR 22

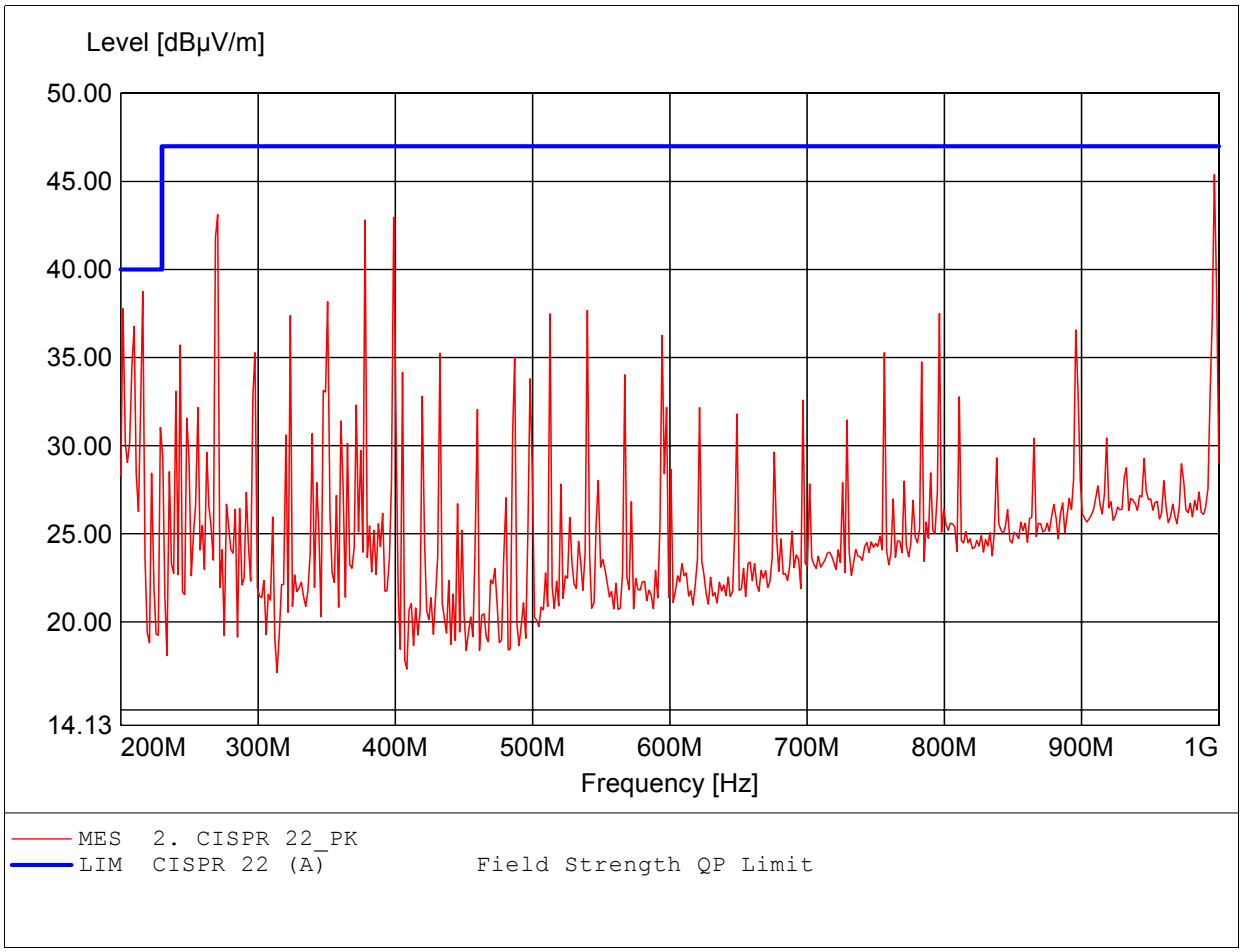
```
Order Number:          W6M20612-7649    CD-ROM Mode
Test Site / Operator: ETS / Jason
Temperature:           Temp.: 23.9°C
Tcest Specification:   Fully Anechoic Chamber
Comment 1:             Dist.: 3m, Ant.: HK 116 , Peak detector
                       Freq:157.074MHz Emax:39.13dBµV/m RBW: 100 kHz
```



Spurious emissions under normal conditions

in accordance to the CISPR 22

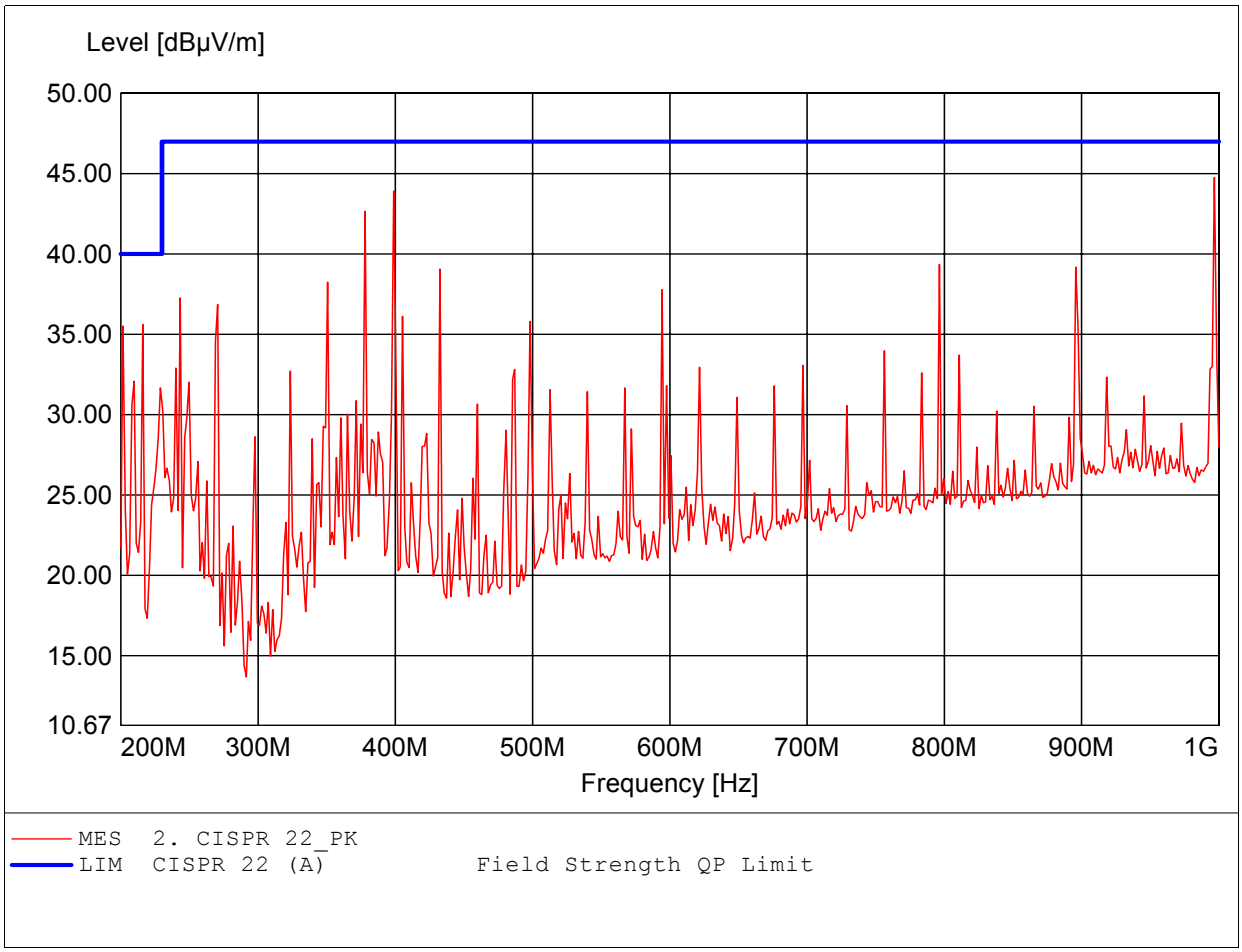
```
Order Number:          W6M20612-7649    CD-ROM Mode
Test Site / Operator: ETS / Jason
Temperature:           Temp.: 23.9°C
Tcest Specification:   Fully Anechoic Chamber
Comment 1:             Dist.: 3m, Ant.: HL 223 , Peak detector
                       Freq:996.794MHz Emax:45.38dBµV/m RBW: 100 kHz
```



Spurious emissions under normal conditions

in accordance to the CISPR 22

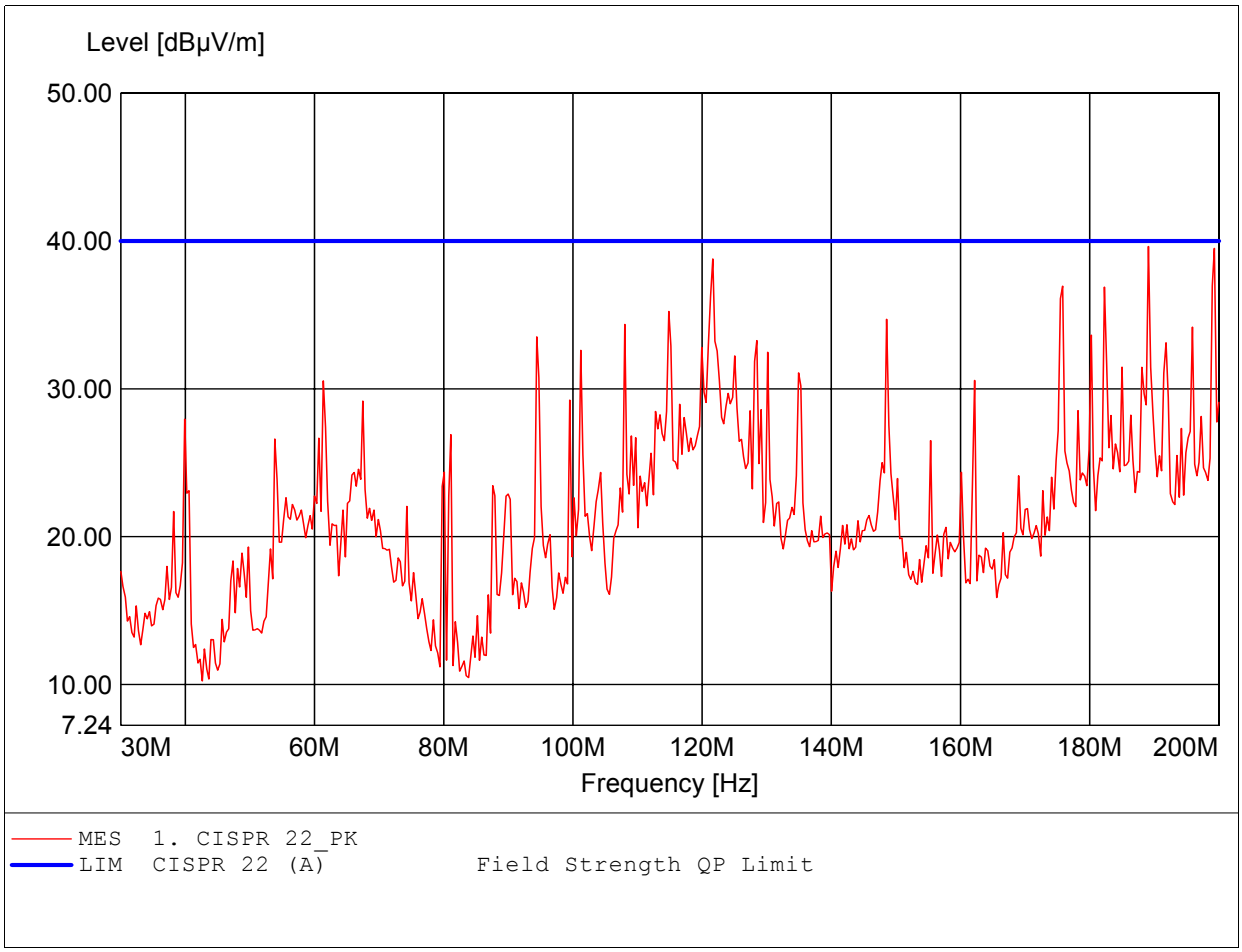
```
Order Number:          W6M20612-7649    CD-ROM Mode
Test Site / Operator: ETS / Jason
Temperature:           Temp.: 23.9°C
Tcest Specification:   Fully Anechoic Chamber
Comment 1:             Dist.: 3m, Ant.: HL 223 , Peak detector
                       Freq:996.794MHz Emax:44.77dBµV/m RBW: 100 kHz
```



Spurious emissions under normal conditions

in accordance to the CISPR 22

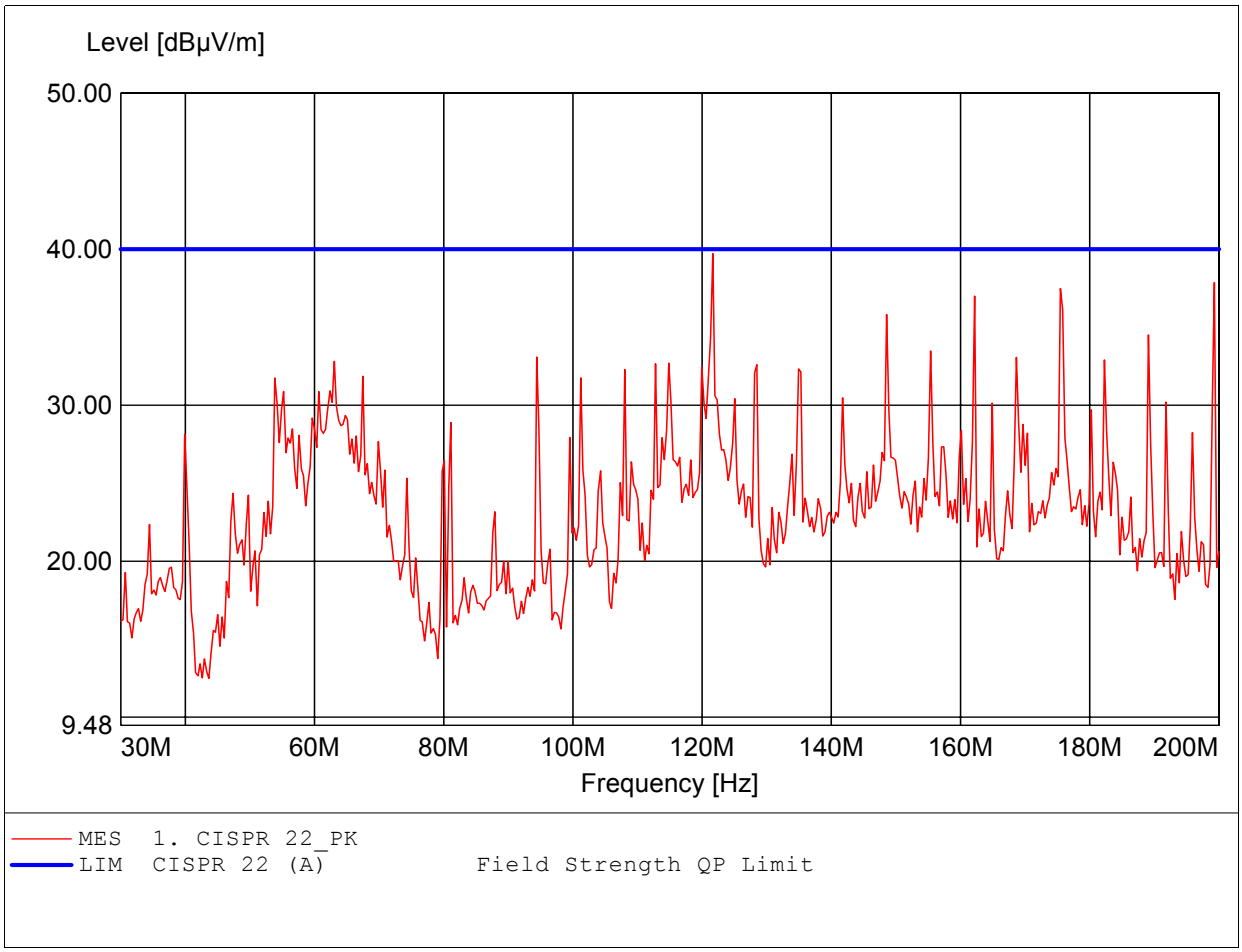
Order Number: W6M20612-7649 HD Mode
Test Site / Operator: ETS / Jason
Temperature: Temp.: 23.9°C
Tcest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:189.098MHz Emax:39.64dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

in accordance to the CISPR 22

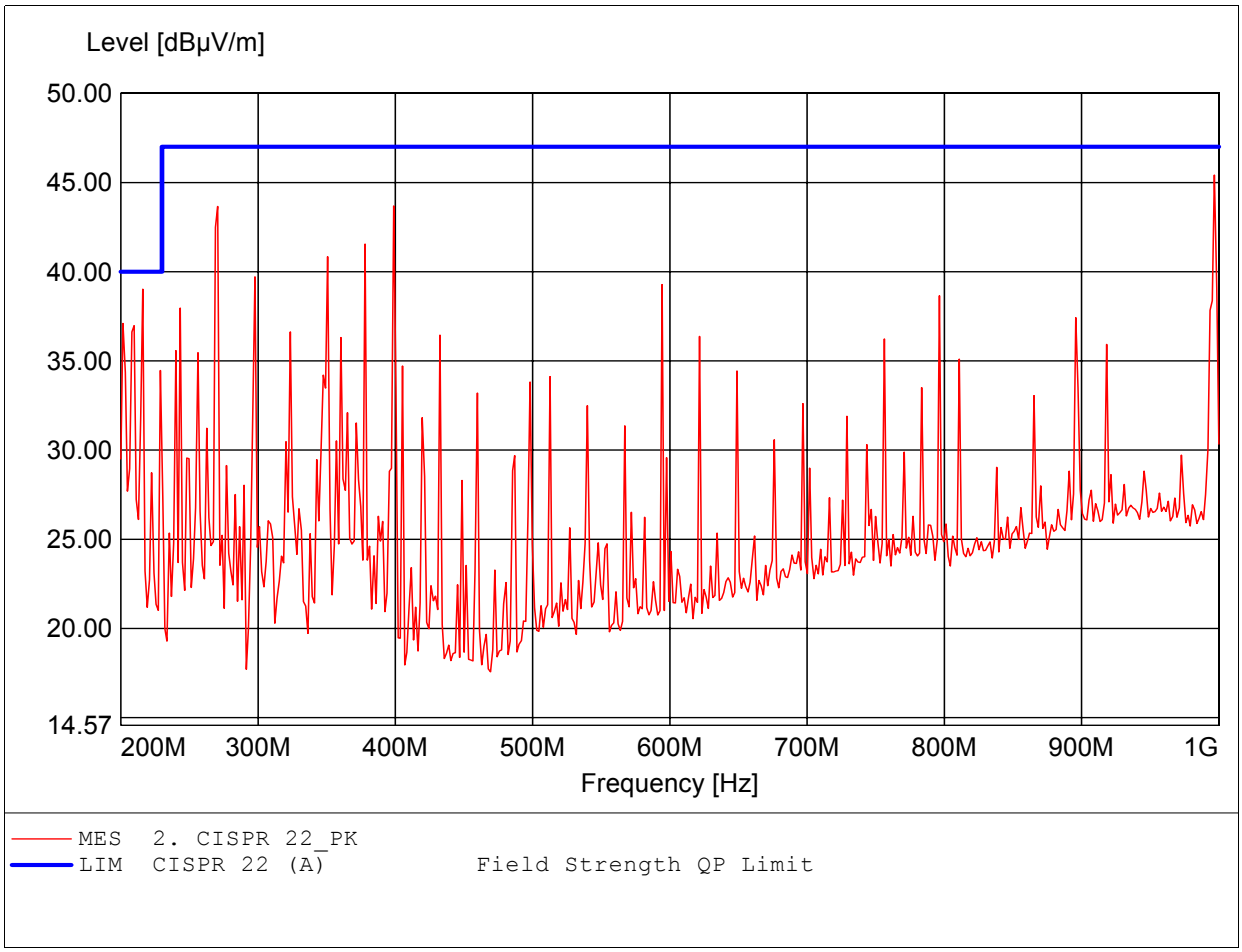
```
Order Number:          W6M20612-7649    HD Mode
Test Site / Operator: ETS / Jason
Temperature:           Temp.: 23.9°C
Tcest Specification:   Fully Anechoic Chamber
Comment 1:             Dist.: 3m, Ant.: HK 116 , Peak detector
                       Freq:121.643MHz Emax:39.72dBµV/m RBW: 100 kHz
```



Spurious emissions under normal conditions

in accordance to the CISPR 22

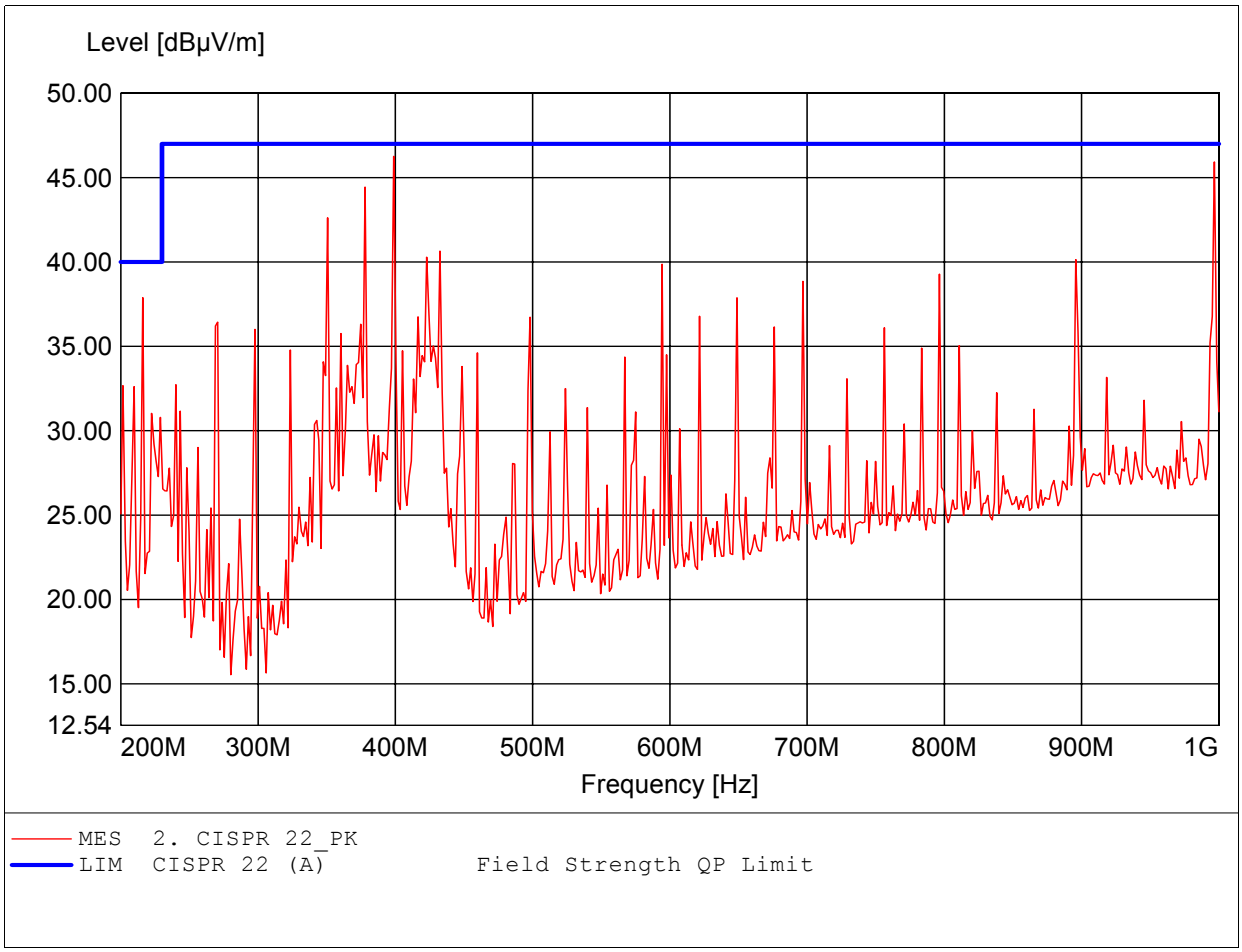
```
Order Number:          W6M20612-7649    HD Mode
Test Site / Operator: ETS / Jason
Temperature:           Temp.: 23.9°C
Tcest Specification:   Fully Anechoic Chamber
Comment 1:             Dist.: 3m, Ant.: HL 223 , Peak detector
                       Freq:996.794MHz Emax:45.41dBµV/m RBW: 100 kHz
```



Spurious emissions under normal conditions

in accordance to the CISPR 22

```
Order Number:          W6M20612-7649    HD Mode
Test Site / Operator: ETS / Jason
Temperature:           Temp.: 23.9°C
Tcest Specification:   Fully Anechoic Chamber
Comment 1:             Dist.: 3m, Ant.: HL 223 , Peak detector
                       Freq:398.798MHz Emax:46.26dBµV/m RBW: 100 kHz
```



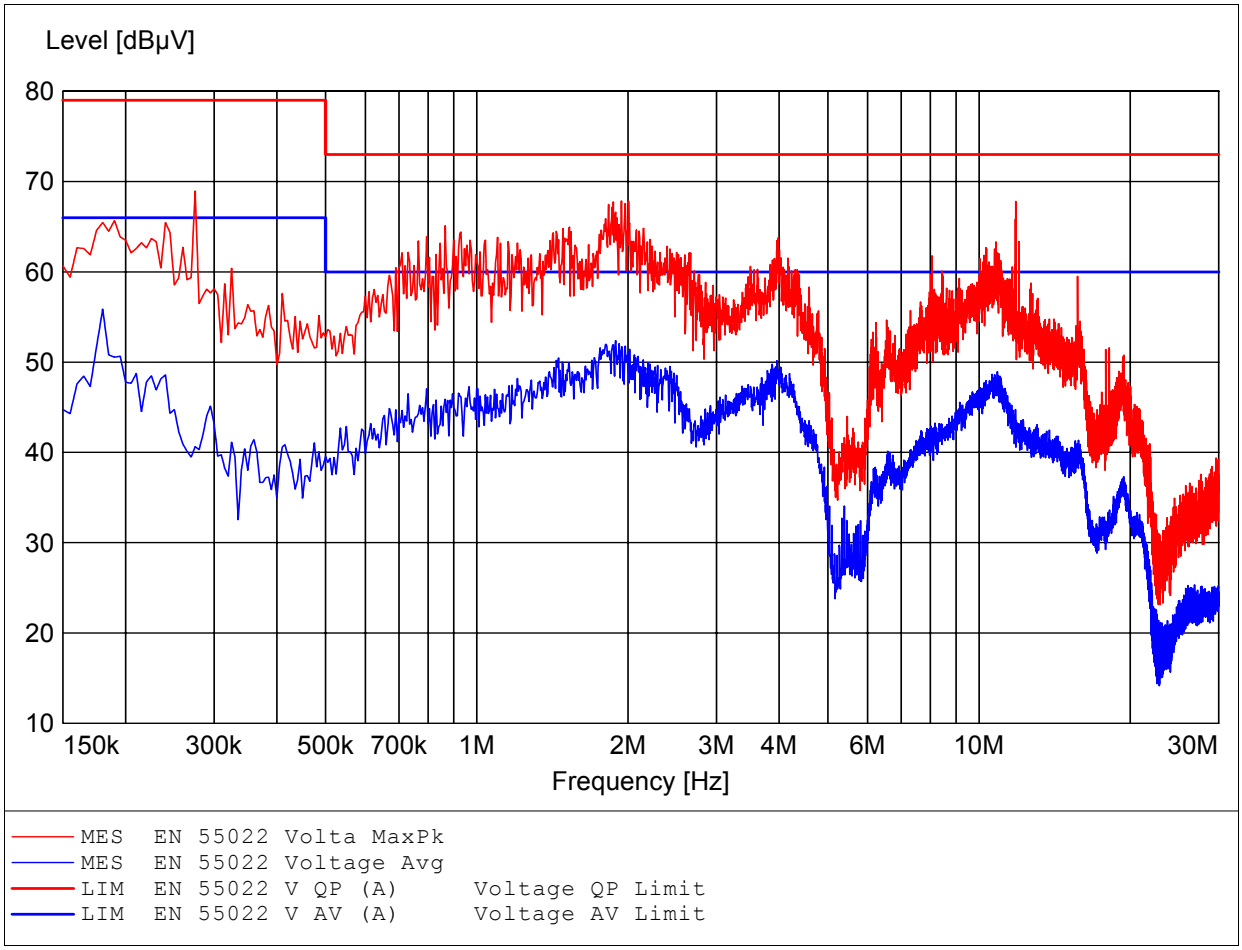
Appendix C

Conducted Emission of DG94 SERIES DG094 XXXXXXX (X→ 0~9, A~Z)

The measurement diagrams plots attached below are preliminary wideband scan with a quasi-peak and average detector for reference only. The final test results are listed on page 32-33.

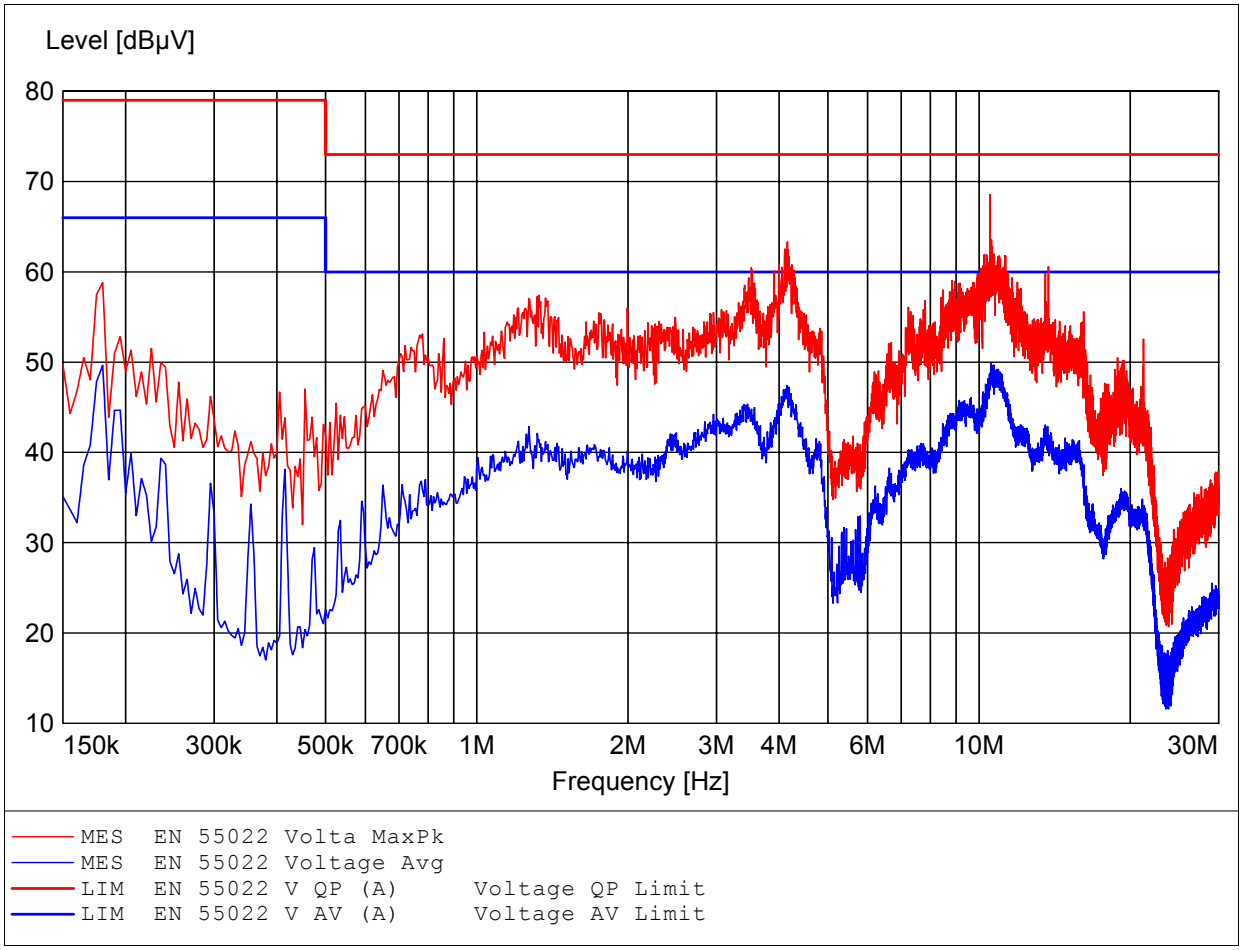
EMI voltage test in the ac-mains according to EN55022

Order Number: W6M20612-7649 CD-ROM Mode
Operating Condition: Tnom: 23.9°C
Test Site: ETS
Operator: Jason
Test Specification: V-network: ESH3-Z5 N



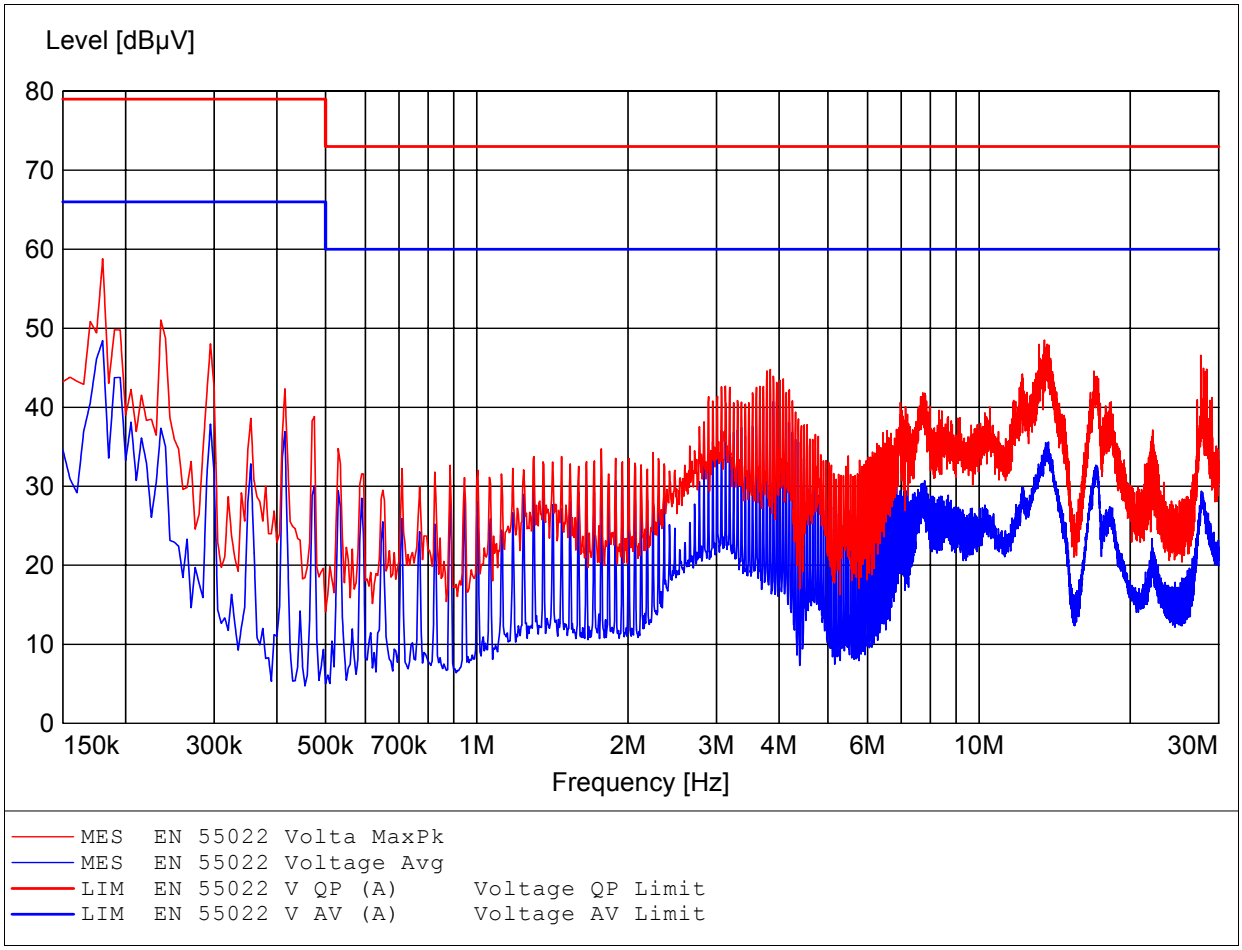
EMI voltage test in the ac-mains according to EN55022

Order Number: W6M20612-7649 CD-ROM Mode
Operating Condition: Tnom: 23.9°C
Test Site: ETS
Operator: Jason
Test Specification: V-network: ESH3-Z5 L1



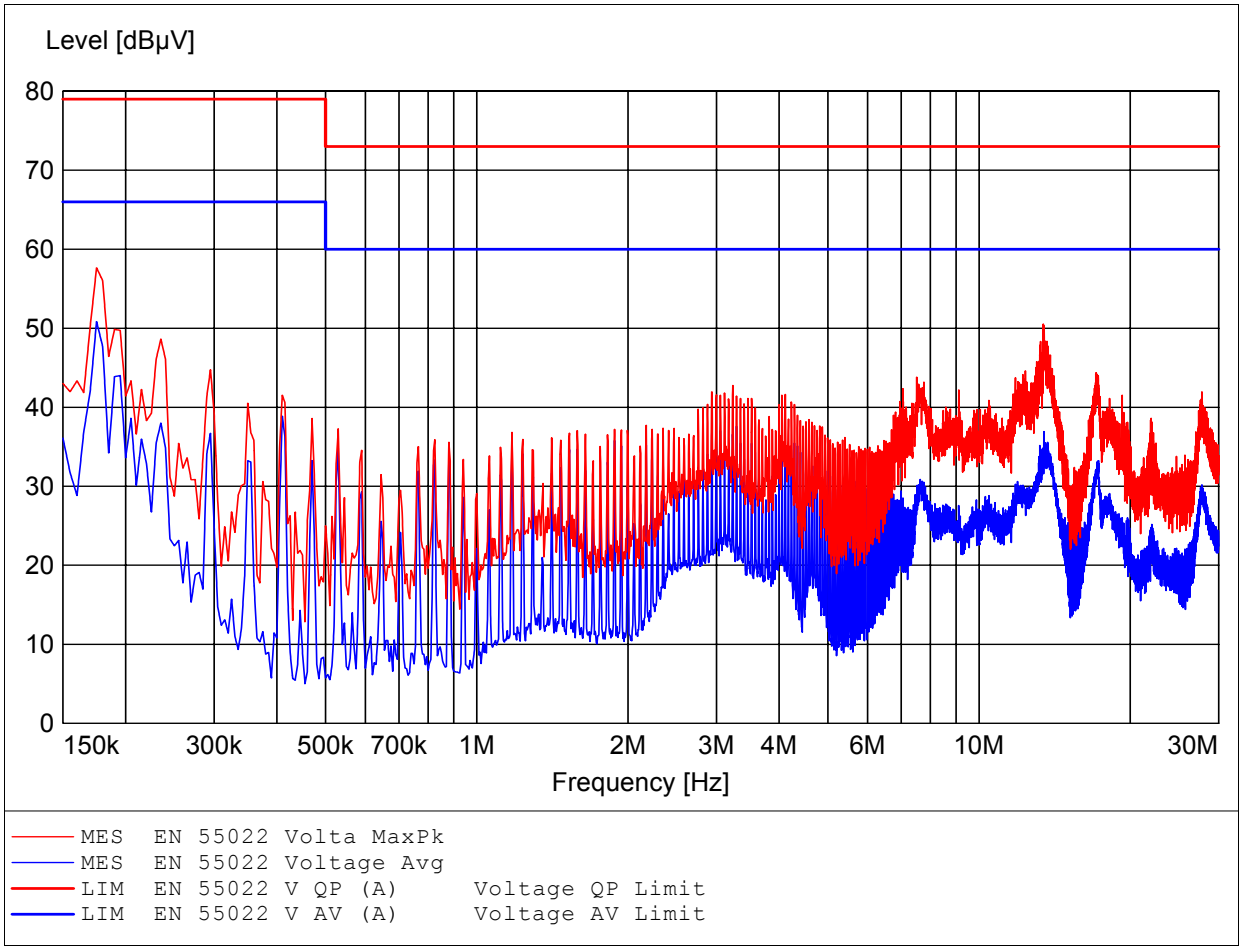
EMI voltage test in the ac-mains according to EN55022

Order Number: W6M20612-7649 HD Mode
Operating Condition: Tnom: 23.9°C
Test Site: ETS
Operator: Jason
Test Specification: V-network: ESH3-Z5 N



EMI voltage test in the ac-mains according to EN55022

Order Number: W6M20612-7649 HD Mode
Operating Condition: Tnom: 23.9°C
Test Site: ETS
Operator: Jason
Test Specification: V-network: ESH3-Z5 L1



Appendix D

Pictures

ETS DR.GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.

External Photos

ETS DR.GENZ TAIWAN PS CO., LTD.
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Registration number : W6M20612-7649-E-11

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HD

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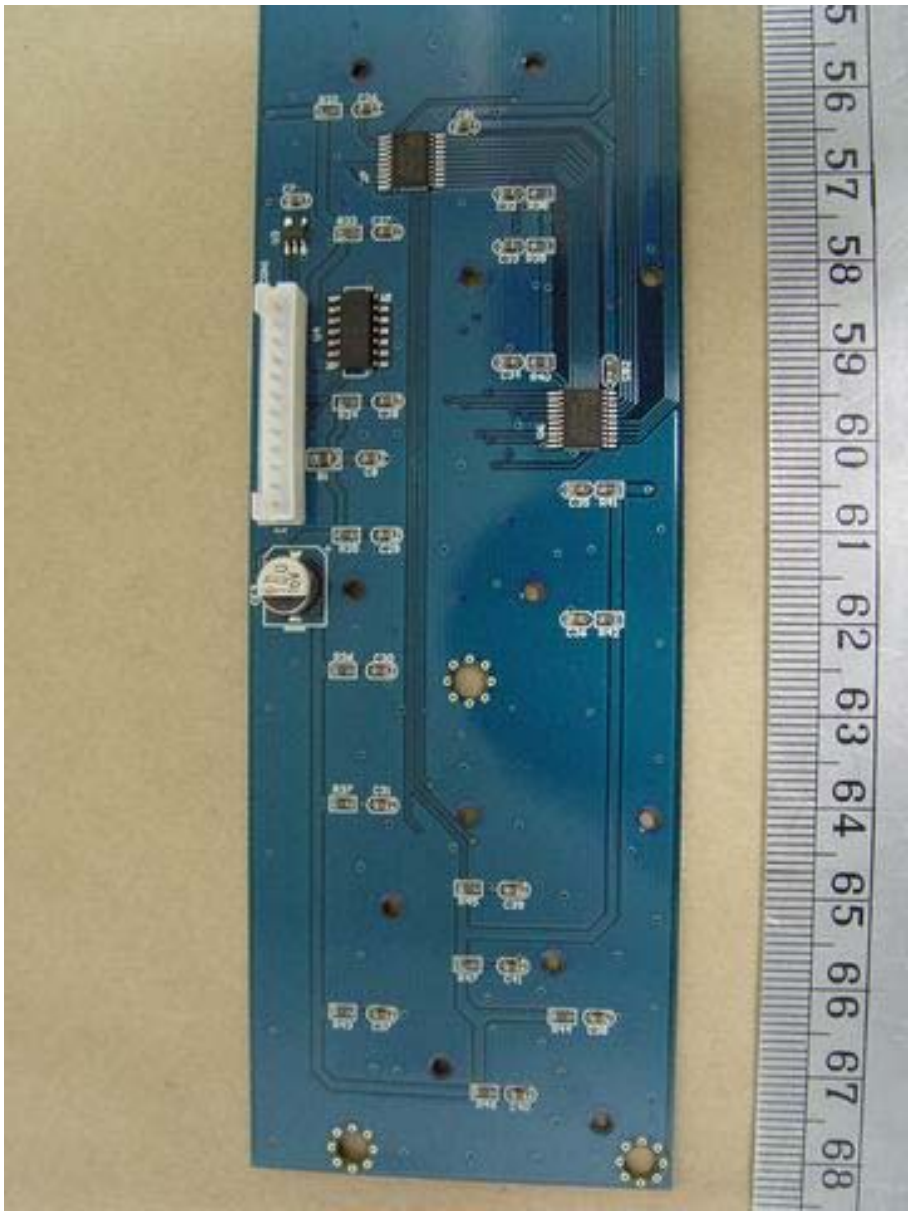
Internal Photos



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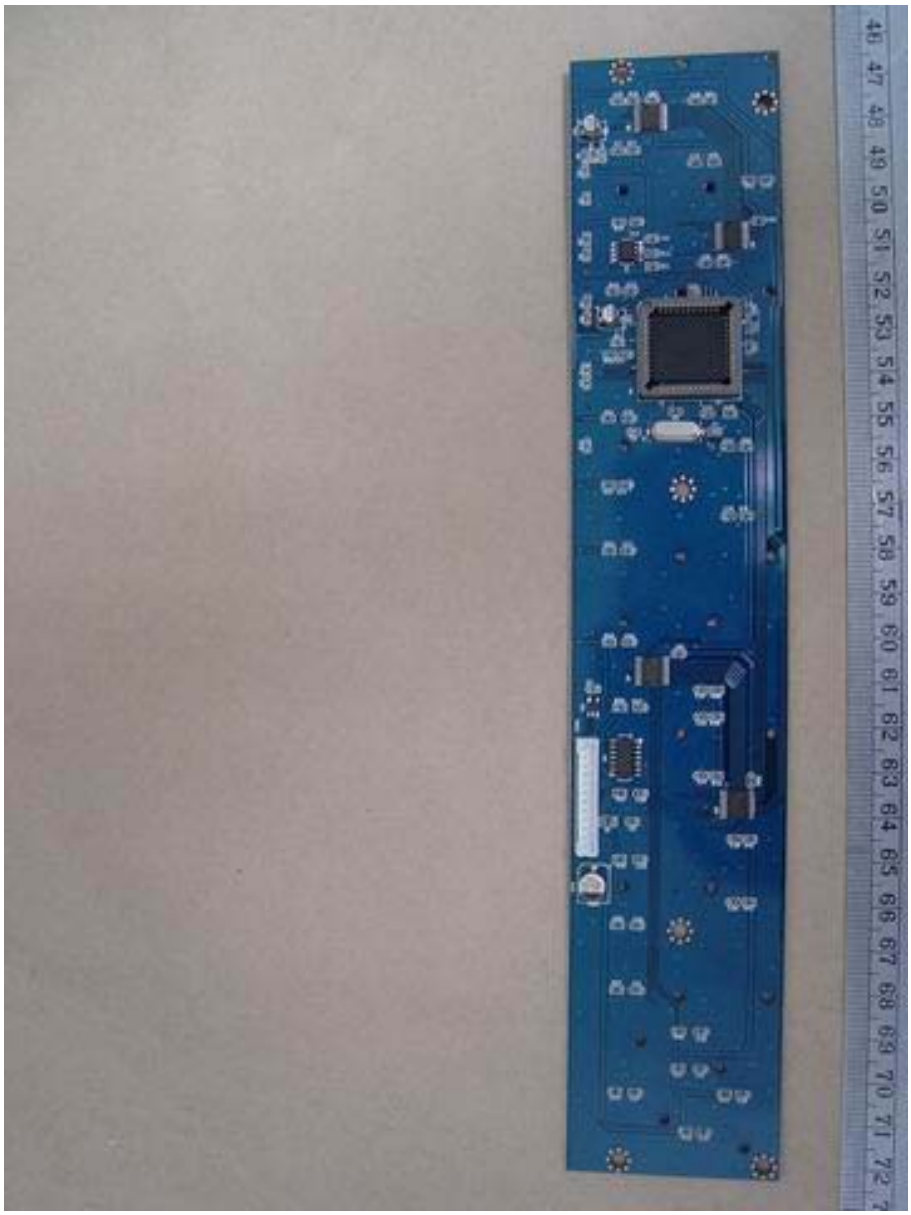
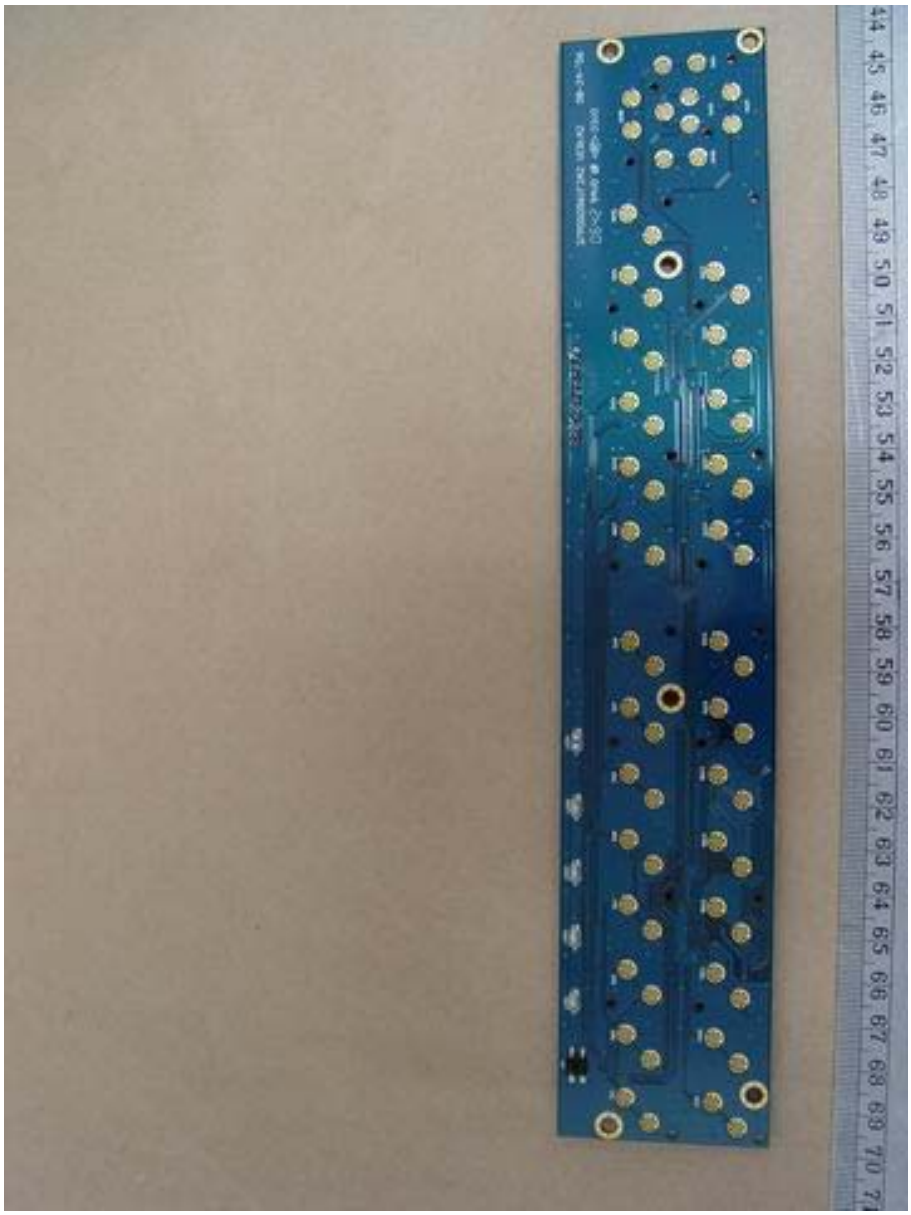
ETS DR.GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.



ETS DR.GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.



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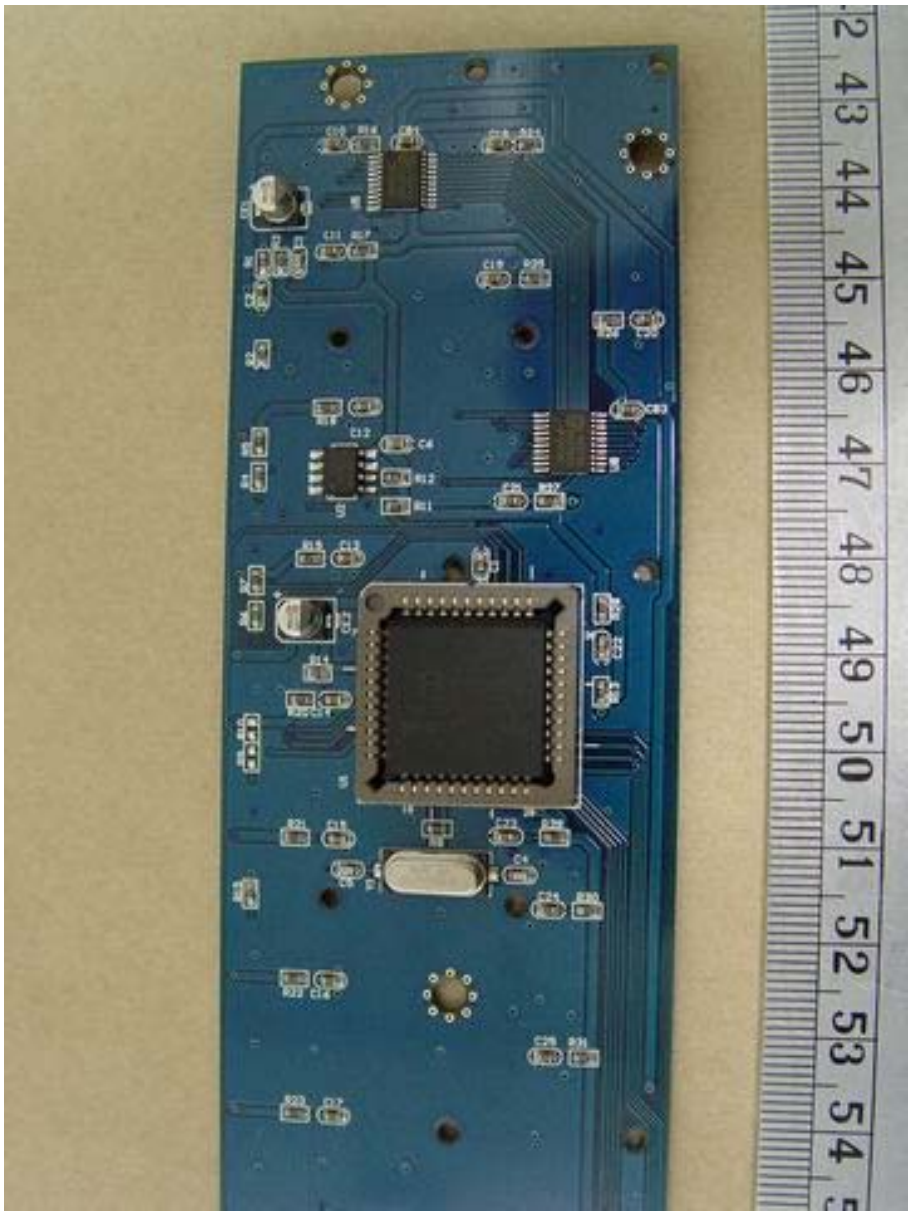
ETS DR.GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.



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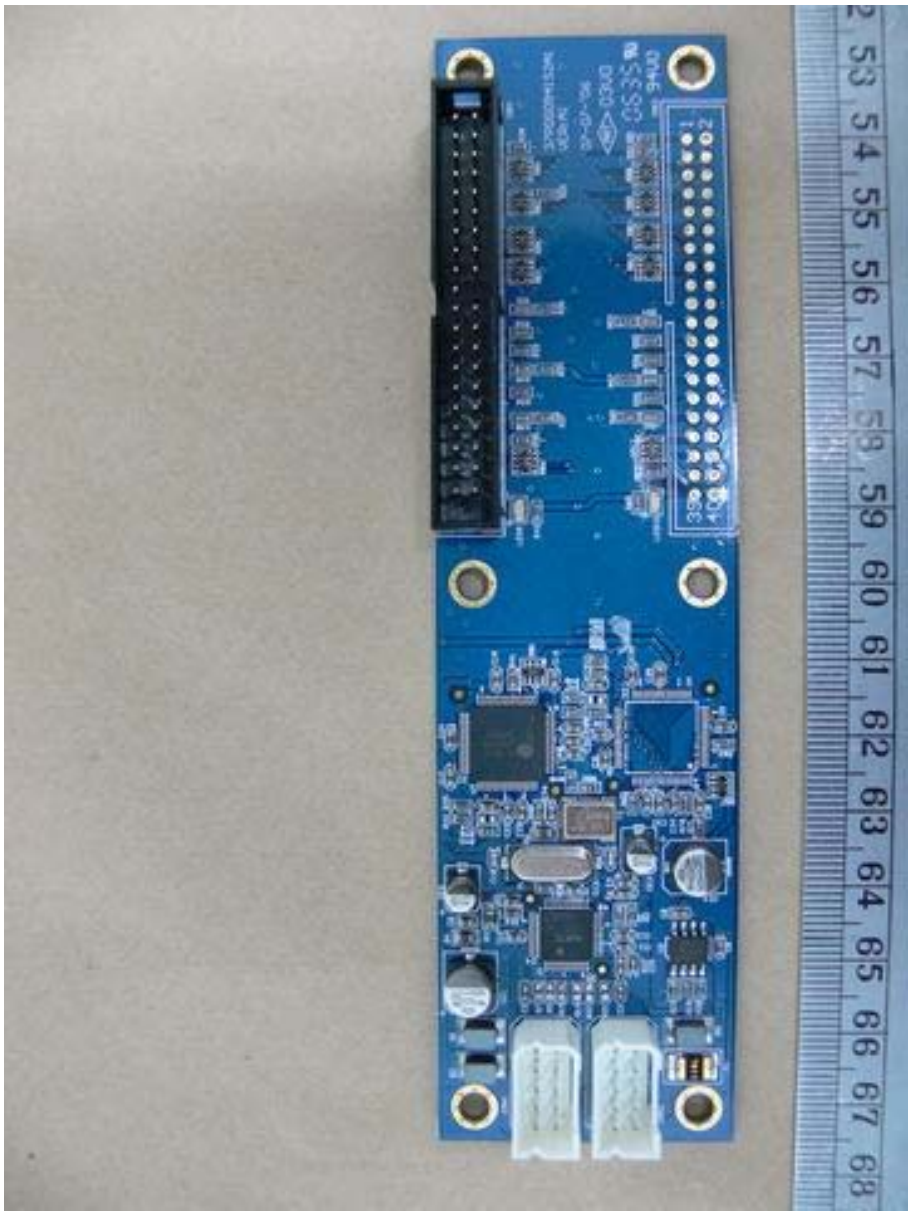
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.



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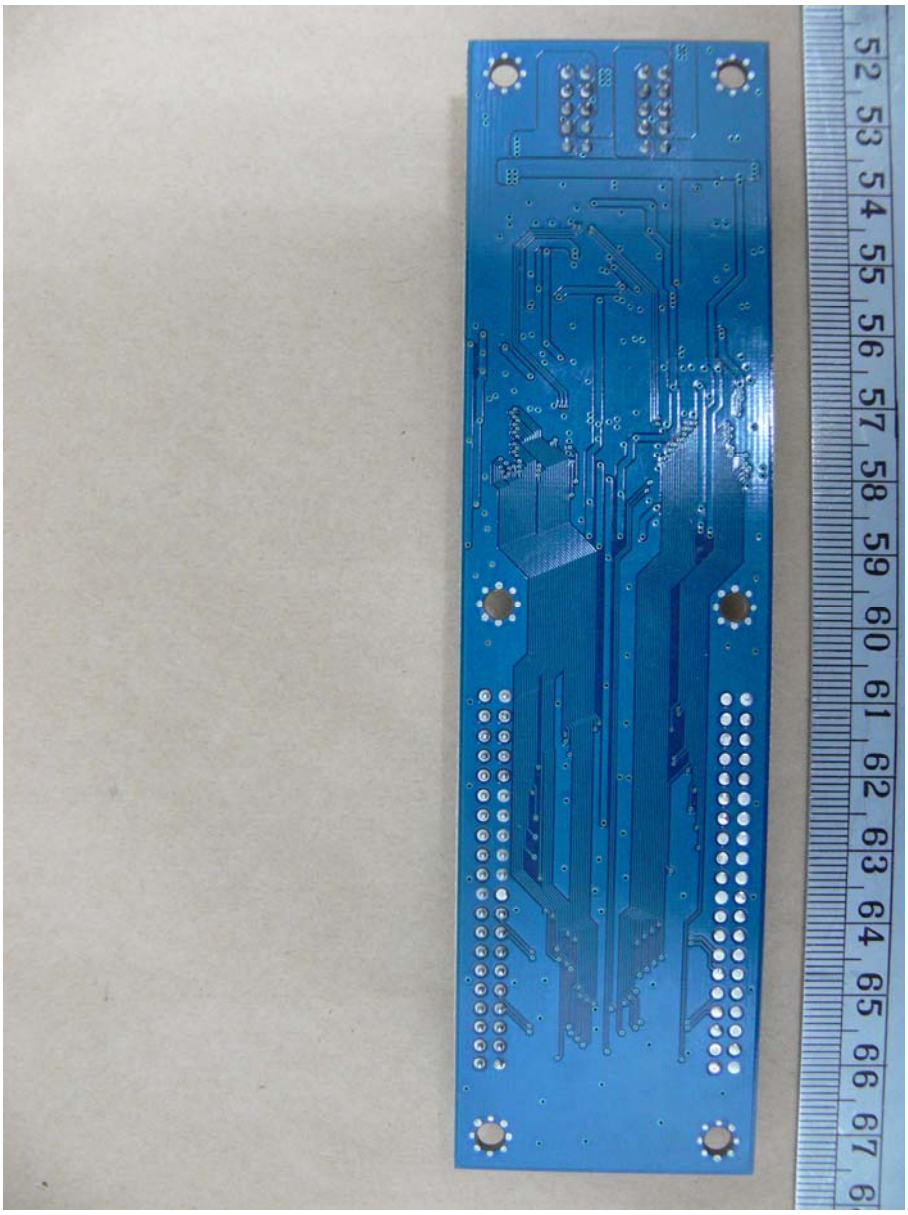

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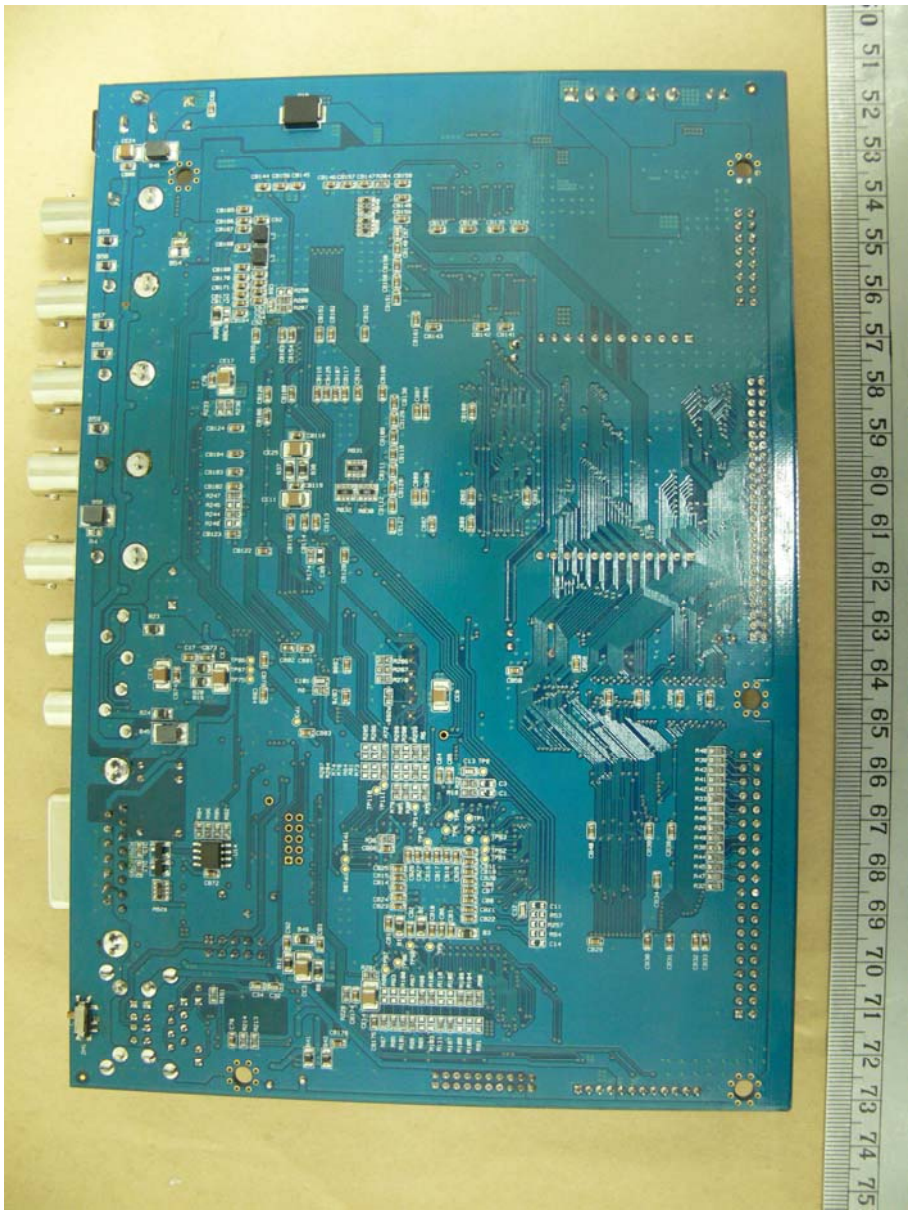

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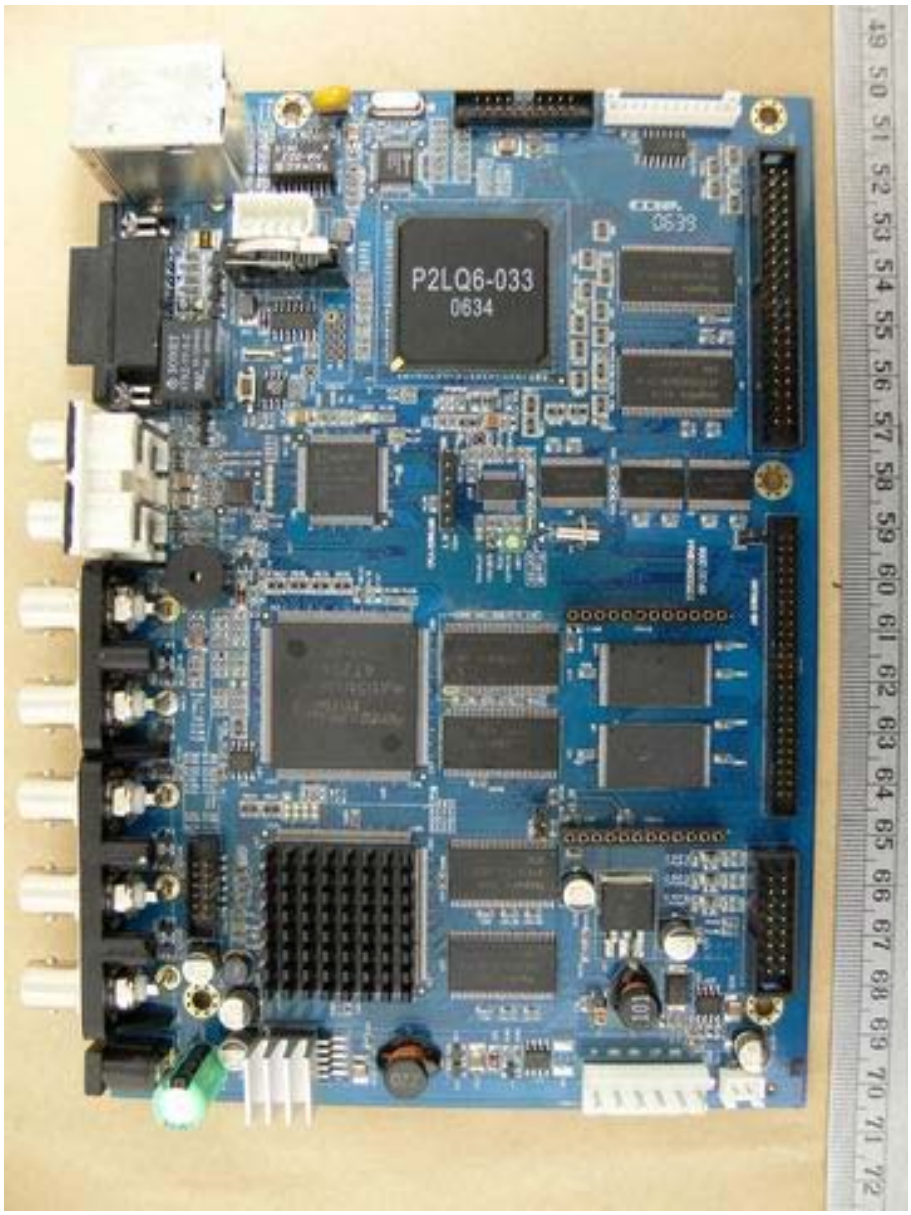
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.



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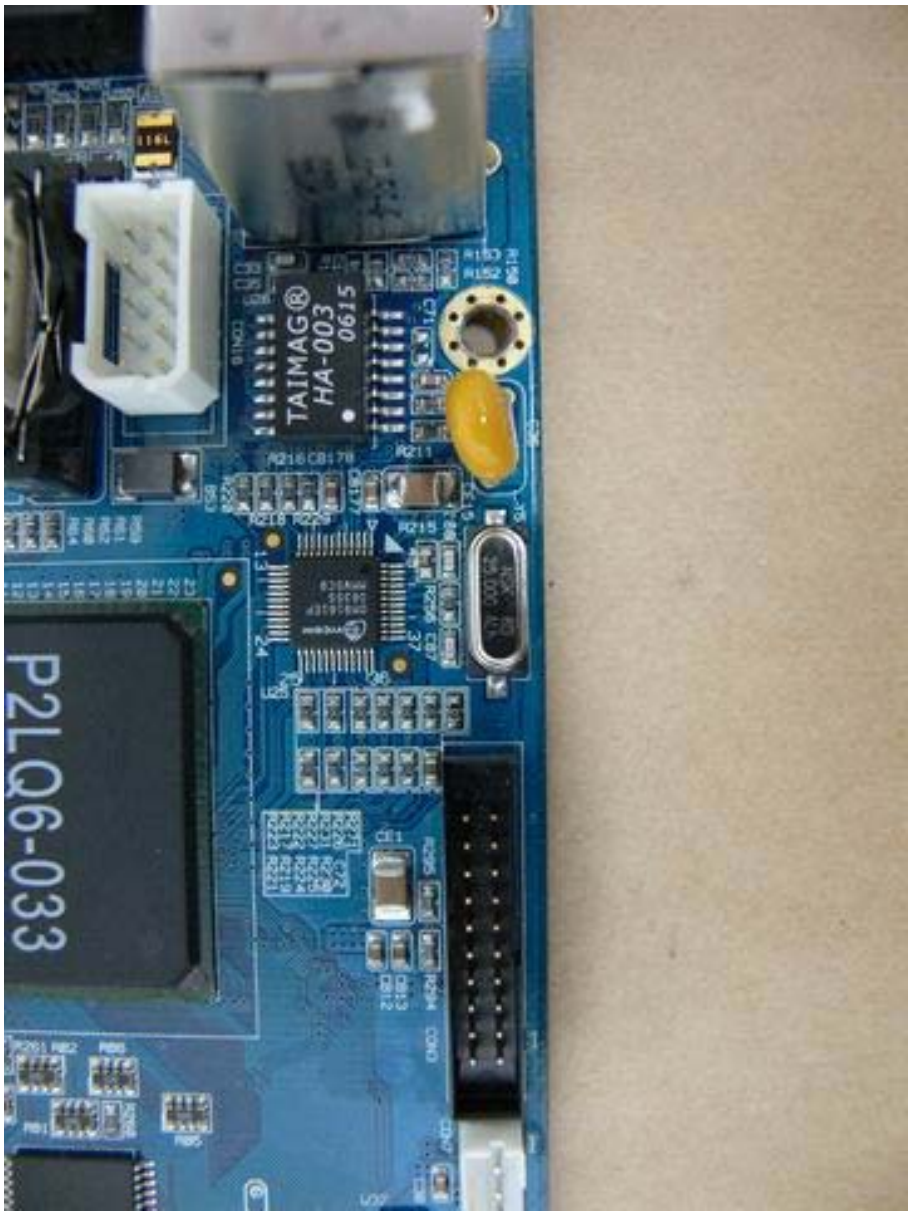

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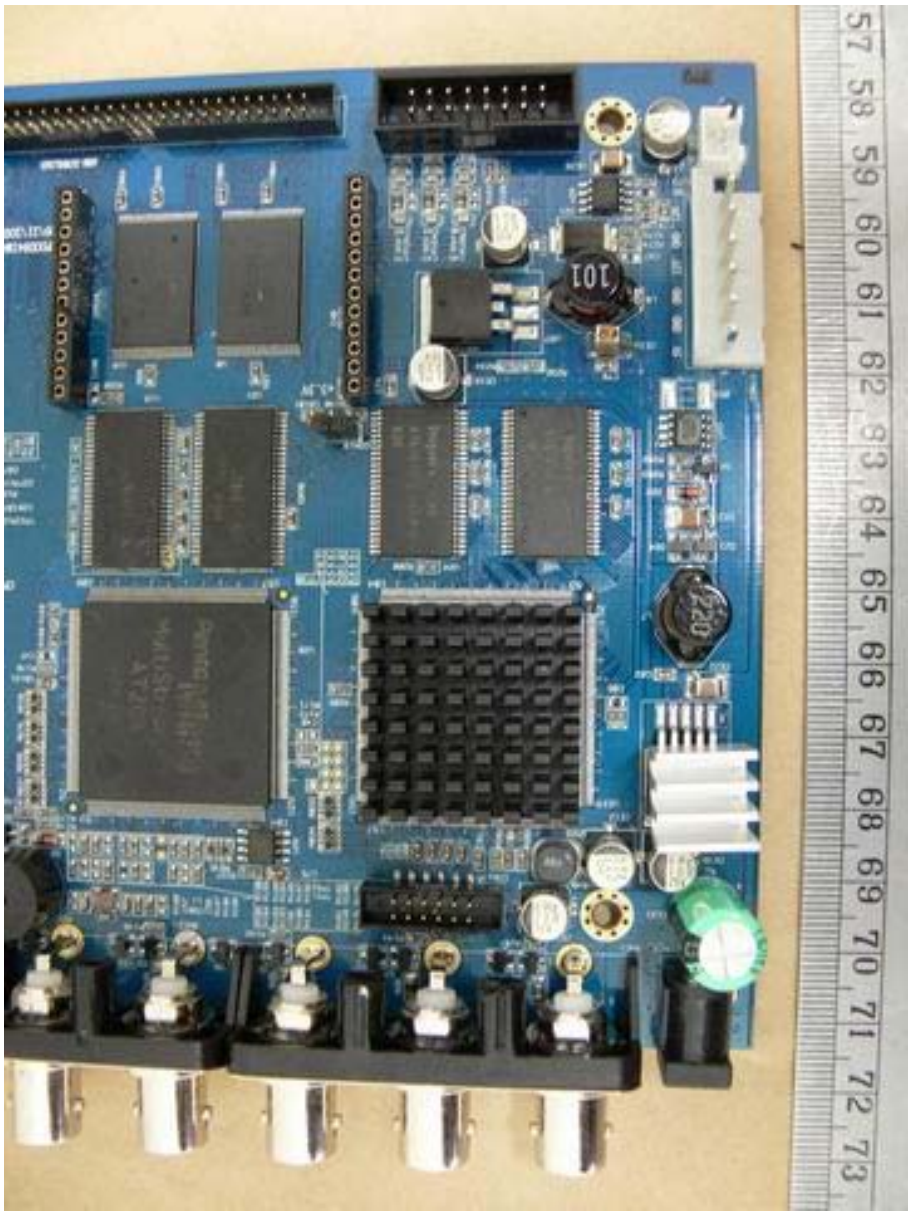
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.



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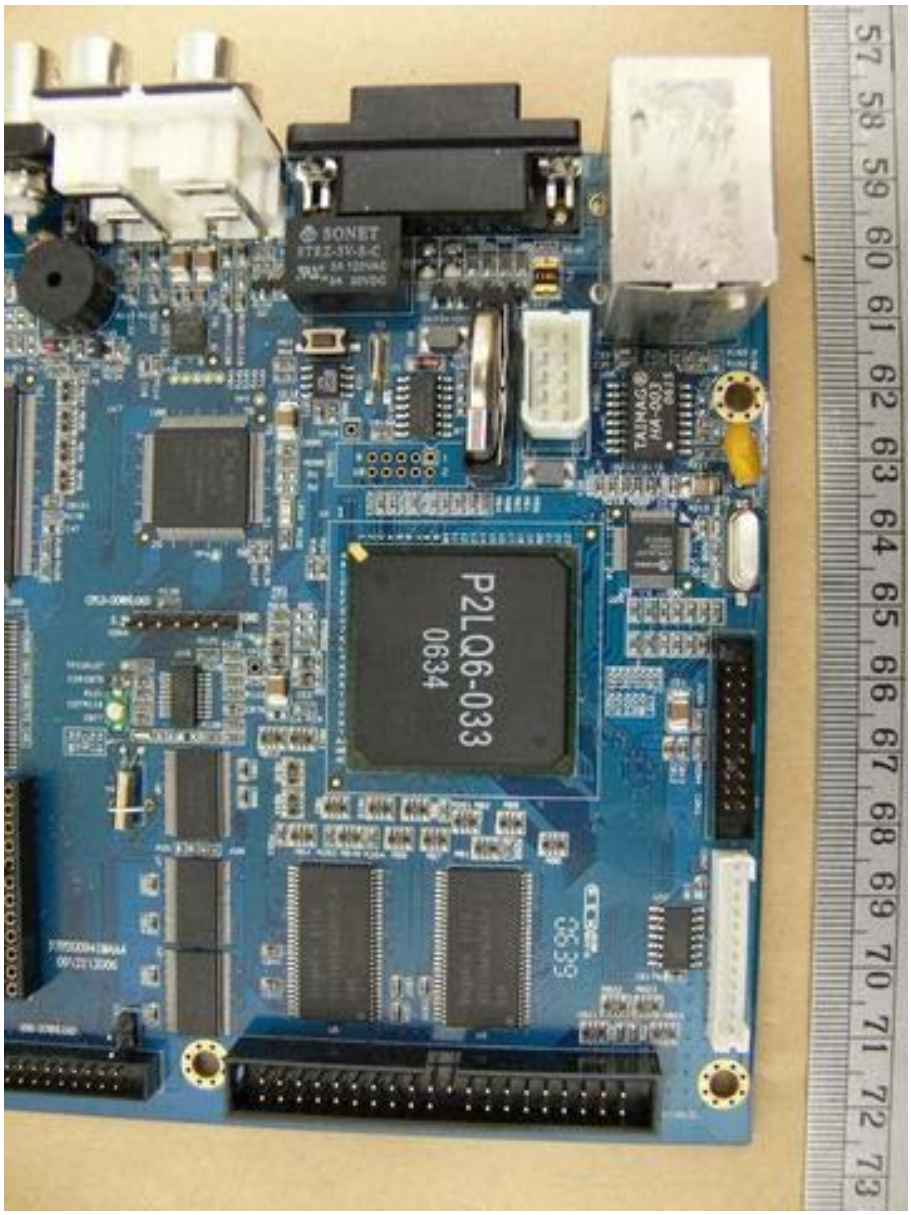
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.



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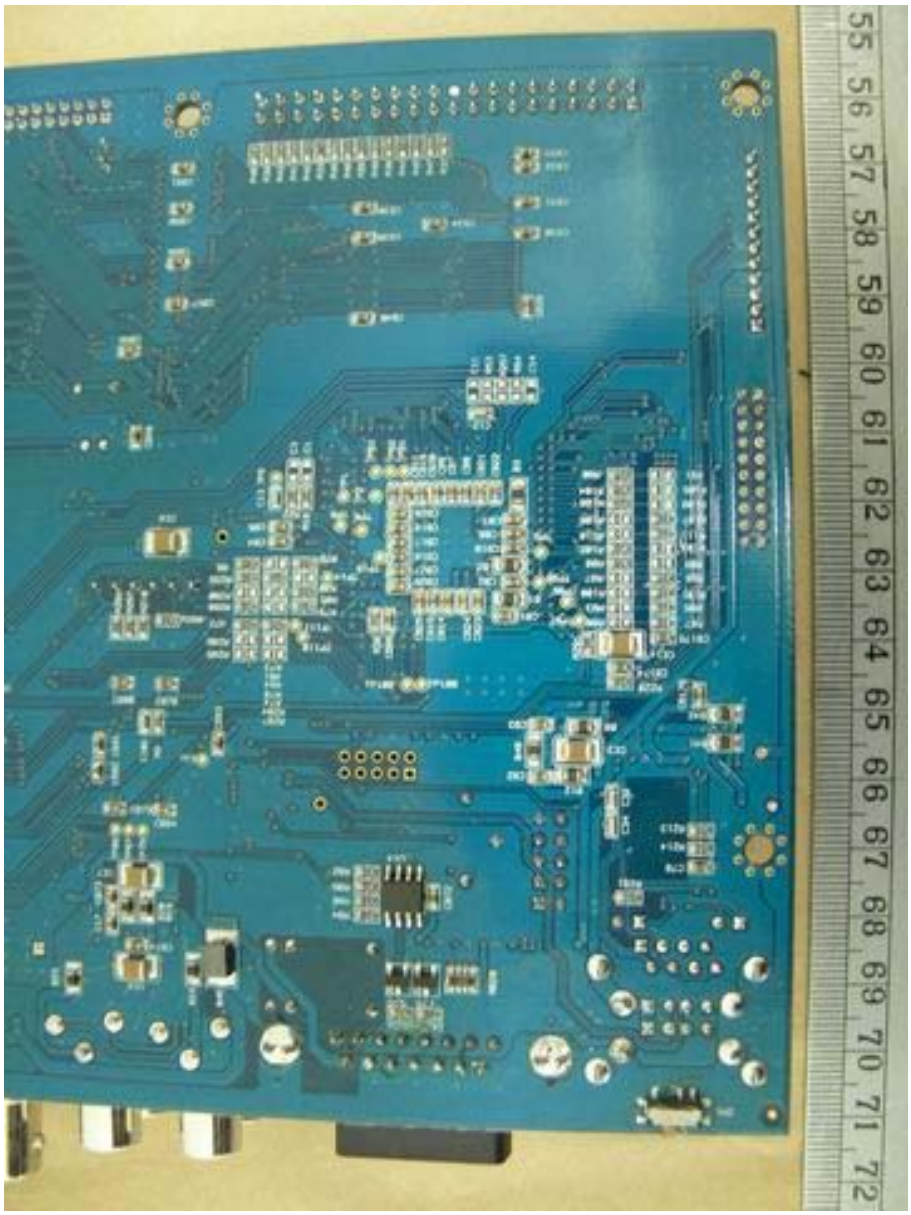

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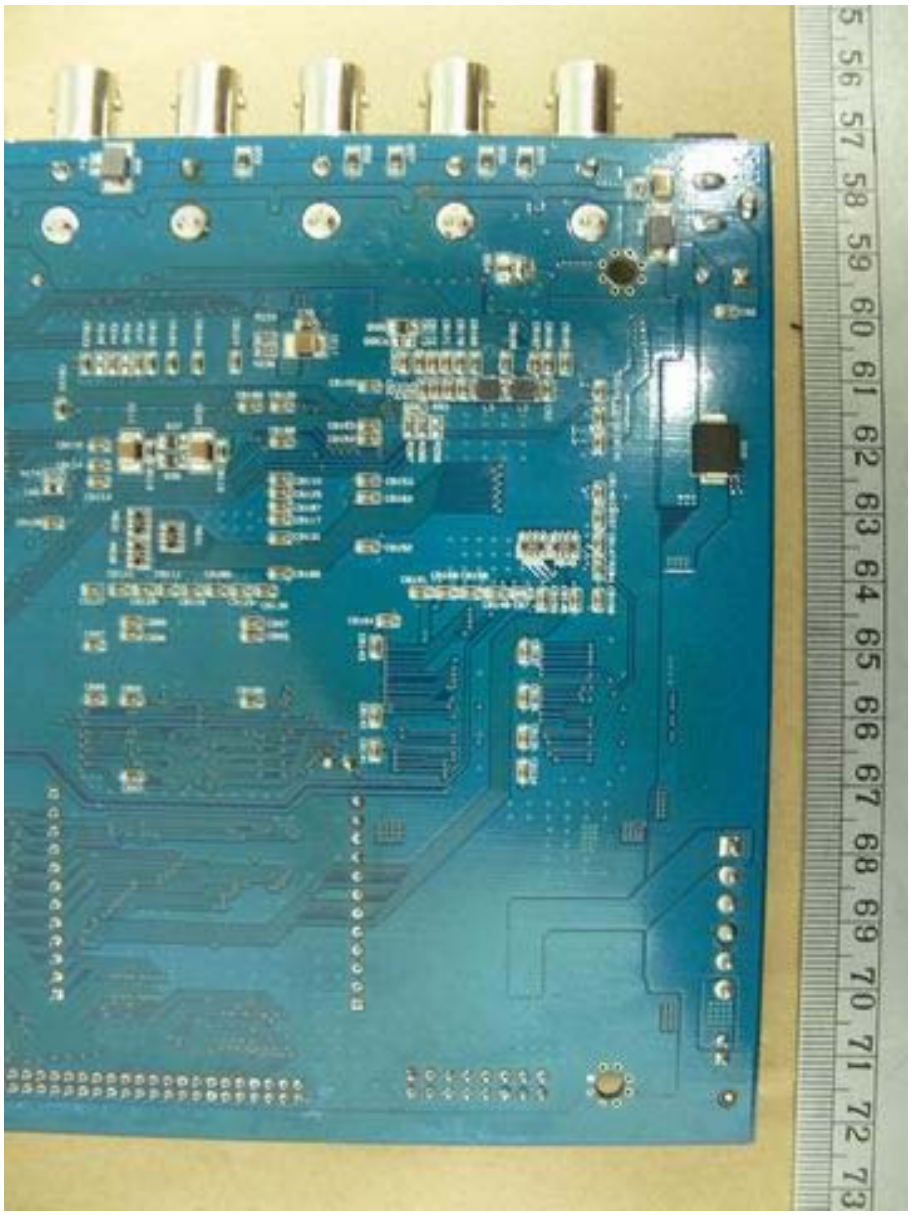

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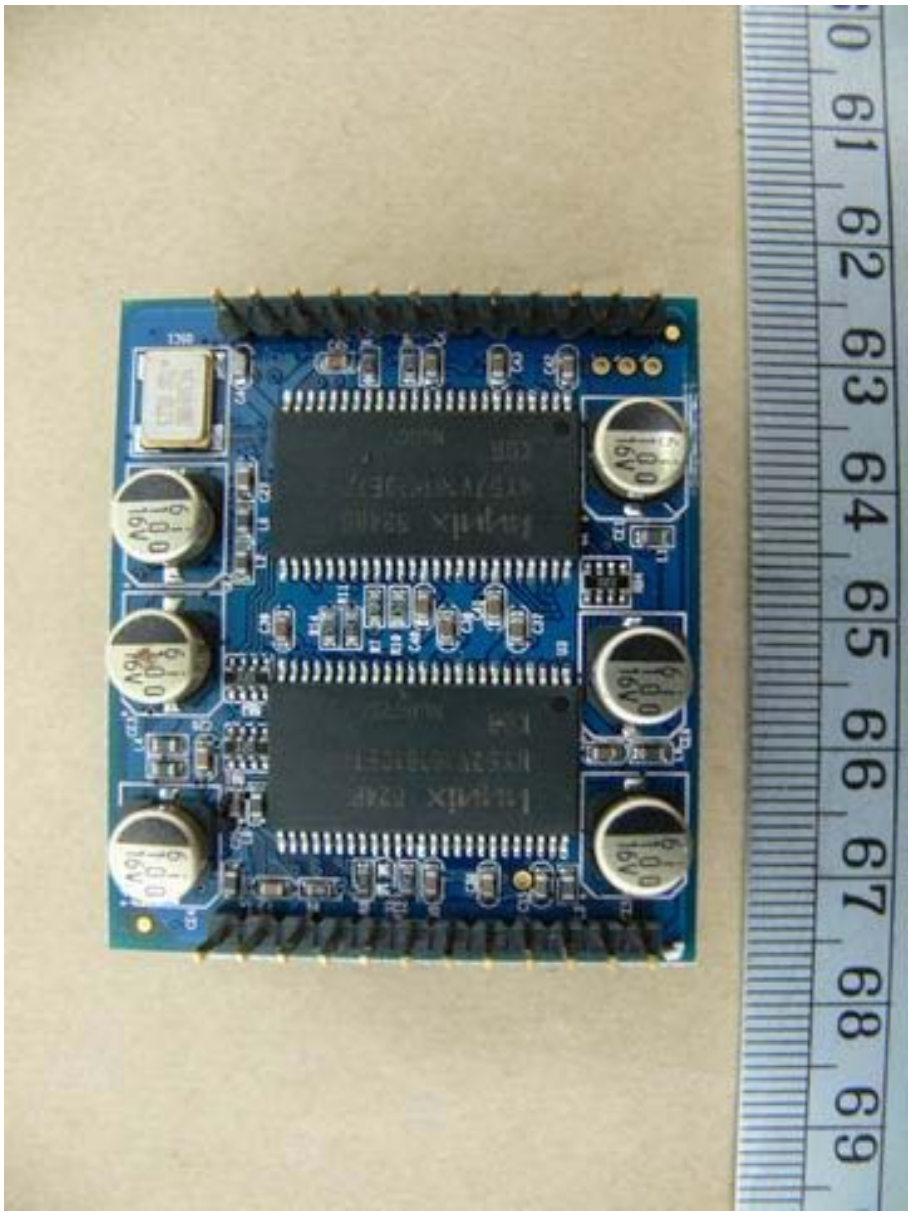

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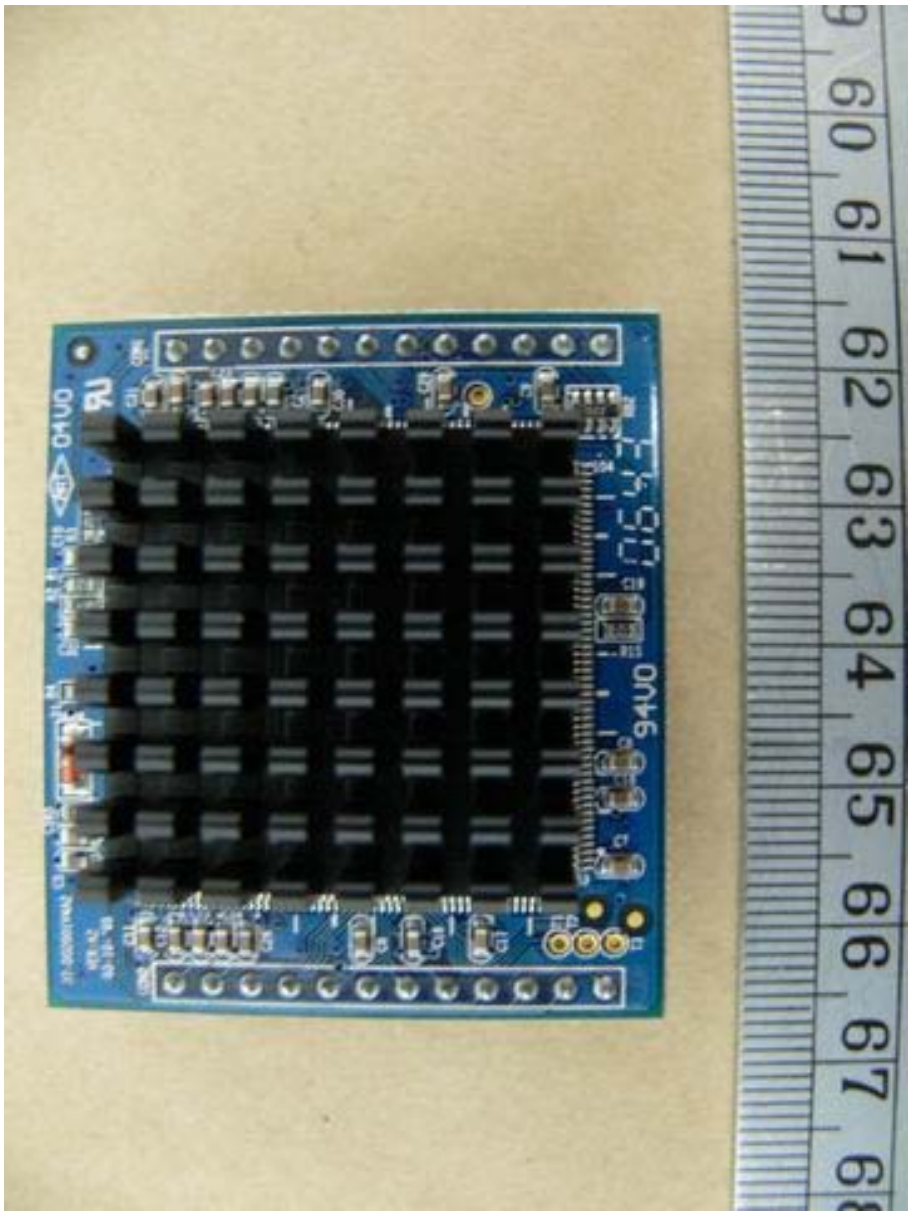
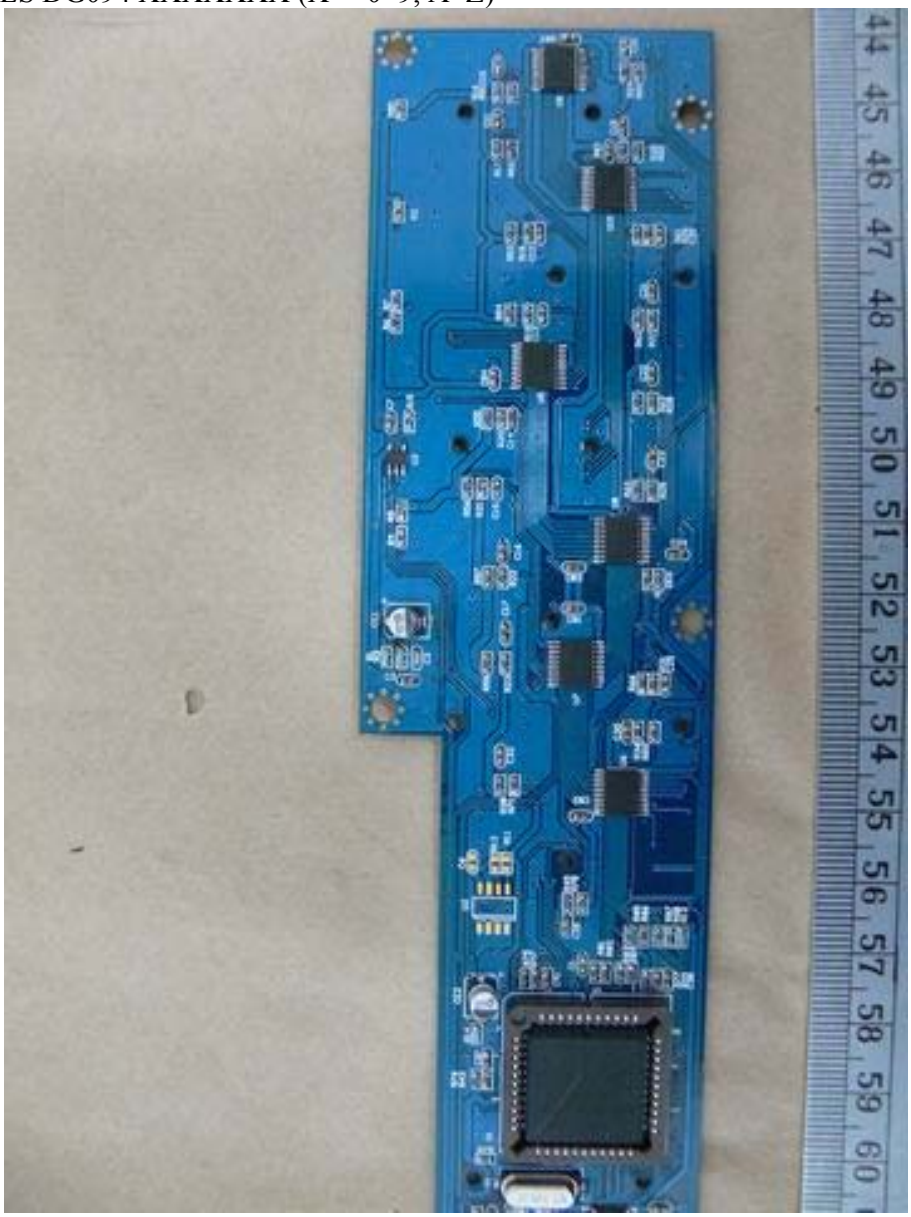
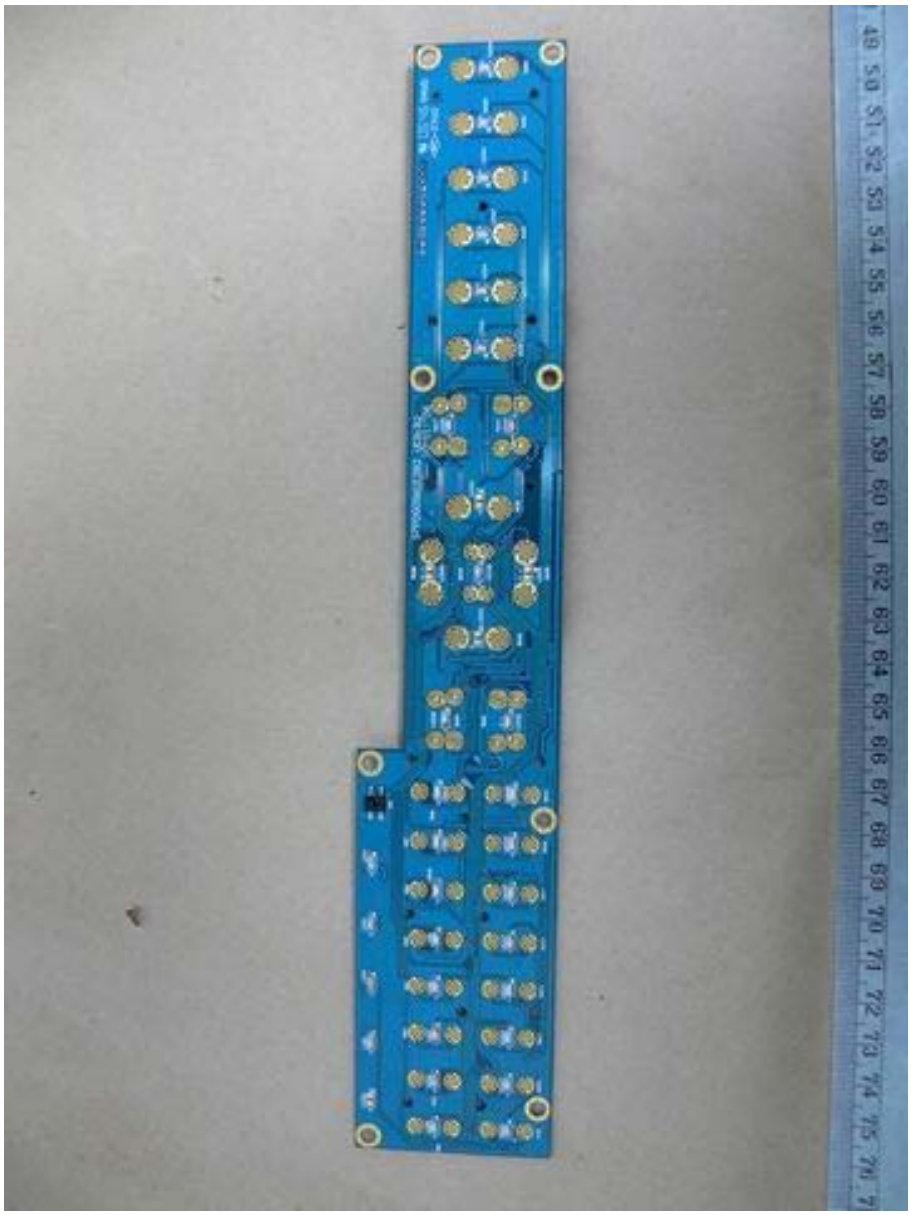
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.



Y3K SERIES DG094 XXXXXXX (X→ 0~9, A~Z) ,
SPECO SERIES DG094 XXXXXXX (X→ 0~9, A~Z)





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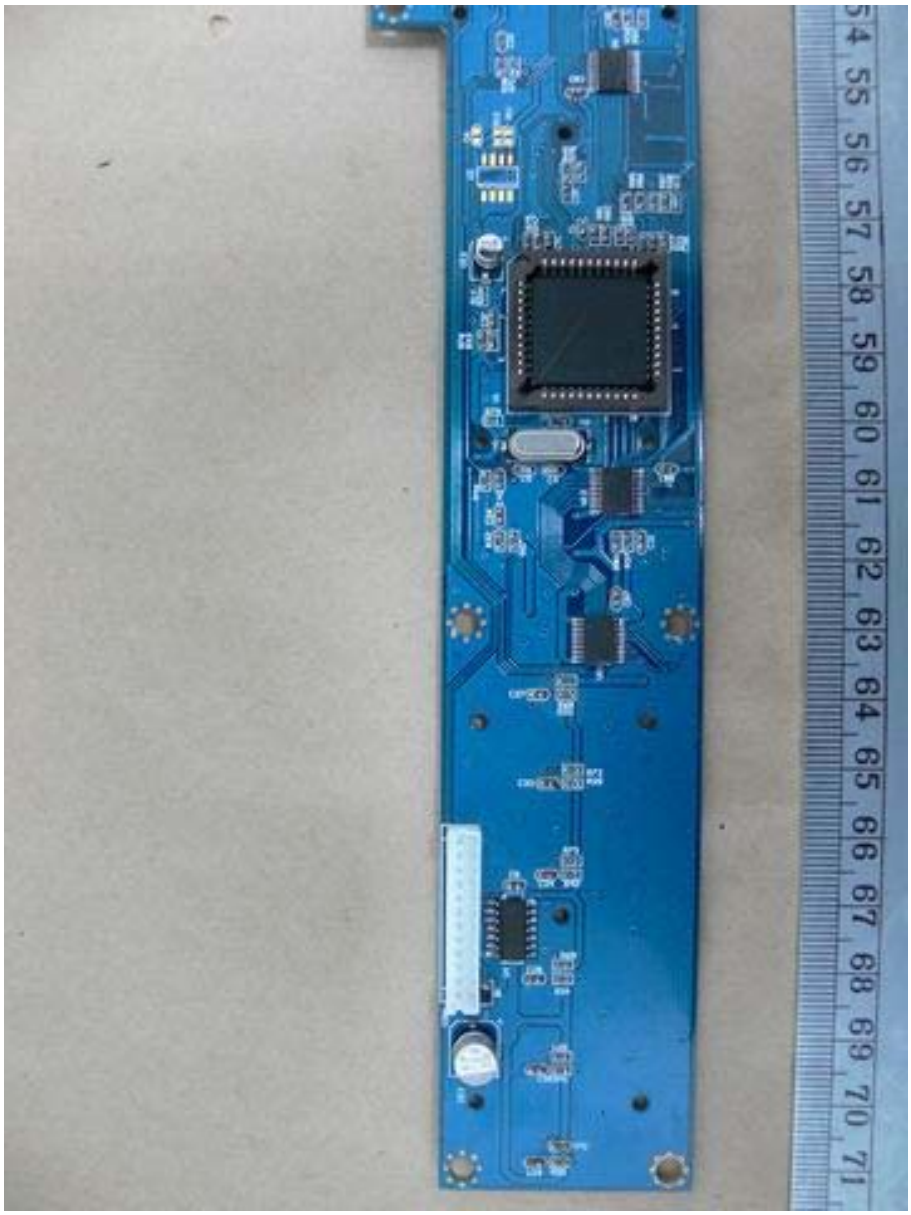
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.



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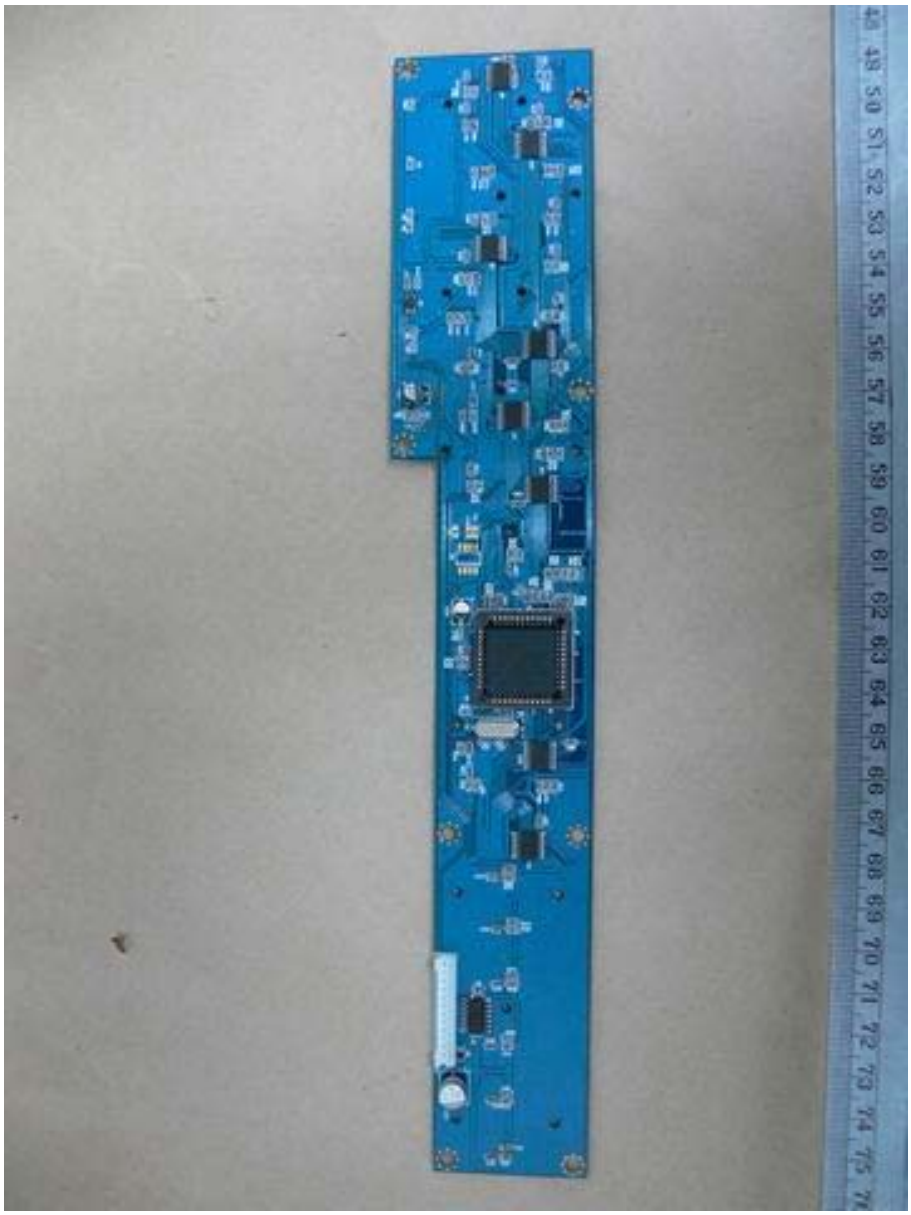
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.



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6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.

Appendix E

Set Up Photo of Radiated Emission

CD-ROM

HD

ETS DR.GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.

Appendix F

Set Up Photo of Conducted Emission

CD-ROM

ETS DR.GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.

HD

Appendix G

Harmonics & Flicker

CD-ROM

HD

ETS DR.GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.

Appendix H

Set Up Photo of ESD

CD-ROM

HD

Appendix I

Set Up Photo of RF-Field

CD-ROM

HD

Appendix J

Set Up Photo of Burst

CD-ROM
AC power line

Signal line_BNC

ETS DR.GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.

Signal line_LAN

HD

AC power line

Signal line_BNC

Signal line_LAN

Appendix K

Set Up Photo of Surge

CD-ROM

HD

ETS DR.GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.

Appendix L

Set Up Photo of CS

CD-ROM
AC power line

Signal line BNC

Signal line LAN

HD

AC power line

Signal line_BNC

Signal line_LAN

Appendix M

Set Up Photo of V-Dips

CD-ROM

HD