



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

TEST - REPORT

FCC RULES PART 15 / SUBPART B

Test report no.:

W6M20612-7649-P-15B

FCC

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Appendix : Pictures and diagrams

1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The tests were carried out and passed in accordance to the standards:

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The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has Passed all the relevant tests conforms to a specification (only telecommunication products).

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems. The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.6.

The test report may only be reproduced or published in full.

Reproduction or publication of extracts from the report requires the prior written approval of the ETS Dr.Geniz Taiwan PS Co., Ltd.

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Important Notes:

Proper labeling is required for each device. Devices shall be labeled in accordance with labeling requirements pursuant to section 15.19 and section 2.1074 of the FCC rules.

Devices subject to a Declaration of Conformity shall be uniquely identified by the responsible party.

This identification shall not be of a format which could be confused with the FCC Identifier required on certified, notified type accepted or type approved equipment.

The responsible party shall maintain adequate identification records to facilitate positive identification for each device.

The user manual or instruction manual shall included also a warning statement that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Reference Section 15.21

Furthermore an information to the user regarding to the interference potential of the device and about simple measures that can be taken to correct interference is required.

Reference Section 15.105

The responsible party must warrant that each unit of equipment marketed under a Declaration of Conformity is identical to the unit tested and found acceptable with the standards and that the records maintained by the responsible party continue to reflect the equipment being produced under the Declaration of Conformity within the variation that can be expected due to quantity production and testing on a statistical basis.

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1.2 Tester

Jan 10, 2007		Jay Chaing	<i>Jay Chaing</i>
_____	_____	_____	_____
Date	ETS-Lab.	Test Engineer	Signature

Technical responsibility for area of testing:

Jan 10, 2007		Steven Chuang	<i>Steven Chuang</i>
_____	_____	_____	_____
Date	ETS	Name	Signature

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1.3 Testing laboratory

1.3.1 Location

OATS
No.5-1, Shuang Sing Village,
LiShuei Rd., Wanli Township,
Taipei County 207, Taiwan (R.O.C.)

Company
ETS Dr.Geniz Taiwan PS Co., Ltd.
6F, NO. 58, LANE 188, RUEY-KUANG RD.
NEIHU, TAIPEI 114, TAIWAN R.O.C.
Tel : 886-2-66068877
Fax : 886-2-66068875

1.3.2 Details of accreditation status

Accredited testing laboratory

A2LA-registration number: 2300.01

FCC filed test laboratory Reg. No. 930600

Industry Canada filed test laboratory Reg. No. IC 5679

PTCRB Accredited Type Certification Test House

1.3.3 Test location, where different from ETS Dr.Geniz Taiwan PS Co., Ltd.

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

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1.4 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
Teletex : ./.

1.5 Application details

Date of receipt of application : Dec 11, 2006
Date of receipt of test item : Dec 11, 2006
Date of test : from Dec 12, 2006 to Jan 10, 2007

1.6 Test item

1.6.1 Description of test item

Type of product : DVR
Type identification : DG94 SERIES DG094 XXXXXXXX (X→ 0~9, A~Z)
Serial No. : Y3K SERIES DG094 XXXXXXXX (X→ 0~9, A~Z) ,
SPECO SERIES DG094 XXXXXXXX (X→ 0~9, A~Z)
Brand Name : ./.
Photos : Please find in Appendix.

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1.6.2 Manufacturer (if different from applicant in point 1.4)

Name : ./.
Street : ./.
Town : ./.
Country : ./.
Contact : ./.
Phone : ./.

1.6.3 Frequency behavior

Highest clock Frequency	<200 MHz
-------------------------	----------

1.7 Test standards

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2 Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.

Or

The deviations as specified in 2.4 were ascertained in the course of the tests performed.

2.2 Test environment

Temperature: 18 ... 25 °C

Relative humidity content 20 ... 75 %

Air pressure: 860 ... 1030 hPa

Details of power supply Input: 100-240 VAC, 50/60 Hz, 1.6 A

Output: 12 VDC, 5 A

Other parameters: The testing items of this test report are all according to customer's request.

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2.3 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-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 Horn Antenna	3117	35224	EMCO	2006/5/3	2008/5/2

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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-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

2.4 Test results

1st test
 test after modification
 production test

Test Emission / Immunity			Done	Test passed	Test failed
Emission	Radiated Emission	FCC part 15.109	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Emission	Conducted Emission	FCC part 15.107	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2.4.1 Radiated Emission

2.4.1.1 Test Equipment

- a) Antenna (HK116)
For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-RE 042
- b) Antenna (HL223)
For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-RE 043
- c) EMI TEST RECEIVER (ESI-26)
For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-RE 003
- d) EMI TEST RECEIVER (ESI 40)
For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-RE 004
- e) ANTENNA (HL025)
For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-RE 017
- f) Log-Periodic DipoleArray Antenna (3148)
For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-RE 028
- g) Biconical Antenna (3109)
For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-RE 029
- h) Double-Ridged Waveguide Horn Antenna (3117)
For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-RE 030
- i) ANTENNA (HL050)
For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-RE 044

2.4.1.2 Test Procedures

- Test configuration

The test configuration corresponds to the standard FCC subpart B. The equipment under test is placed on a non metallic table with 0,8m height. 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 1,0 to 4,0m, in a distance of 10m. The measurement receiver are placed in a special room. 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 polarization of the antenna in a frequency range of 30 MHz to 5000 MHz . Further information please find in the test protocol.

2.4.2 Conducted Emission

2.4.2.1 Test Equipment

a) Artificial mains (ESH3-Z5)

For your reference please find it in our test equipment list at page 9 to 10 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 9 to 10 as number : ETSTW-CE 006

c) Test receiver (ESHS10)

For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-CE 001

d) AC Power Source (APS-9102)

For your reference please find it in our test equipment list at page 9 to 10 as number : ETSTW-CE 003

- Test configuration

The test configuration is contained inside of a shielded chamber and corresponds to the standard FCC part 15B. 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. The measurement receiver are placed in a special room adjacent to the chamber. 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 a nominal impedance by $50\Omega / 50\mu\text{H}$ of the AMN in a frequency range 150 kHz to 30 MHz. This measurement was transact first with instrumentation using an average and peak detector and a 10 kHz bandwidth. If the peak detector achieves a calculated level, the measurement is repeated by an instrumentation using a quasi-peak detector,

Further information please find in test report.

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2.5 Test protocols

2.5.1 Radiated Emission

Radio Noise Field Strength

Emission

Standard : FCC part 15B

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

Date : Dec 14-15, 2006

Class : A

Temperature : 23.9 °C
Pressure : 939 hPa
Rel. humidity: 51 %

Frequency Range Polarization	Limit μV/m	Passed	Failed	Number of rechecks
30 MHz – 88 MHz	90	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
88 MHz – 216 MHz	150	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
216 MHz – 960 MHz	210	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
Above 960 MHz	300	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0

Comment: See attached diagrams as appendix A

Registration number: W6M20612-7649-P-15B

Standard : FCC part 15B

Device : DG94 SERIES DG094 XXXXXXXX

(X → 0~9, A~Z)

Date : Dec 14, 2006

Class : A

Temperature : 23.9 °C
Pressure : 939 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	162.184	16.01	15.36	PK	31.37	43.52	12.15	110	154
	189.098	21.03	12.88	PK	33.91	43.52	9.61	105	172
	216.032	21.66	12.45	PK	34.11	46.44	12.33	320	59
	320.240	24.56	15.87	PK	40.43	46.44	6.01	120	80
	996.793	10.99	29.99	PK	40.98	49.54	8.56	100	180

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	162.184	17.83	15.34	PK	33.17	43.52	10.35	120	166
	175.792	1.92	14.94	PK	34.14	43.52	9.38	115	82
	216.632	16.56	12.45	PK	29.01	46.44	17.43	209	62
	323.441	25.75	15.94	PK	41.69	46.44	4.75	130	85
	996.812	14.25	27.99	PK	42.24	49.54	7.30	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.

Registration number: W6M20612-7649-P-15B

Standard : FCC part 15B

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

Date : Dec 15, 2006

Class : A

Temperature : 23.9 °C
Pressure : 939 hPa
Rel. humidity: 51 %

Summary table with radiated data of the test plots

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	121.643	16.50	13.48	PK	29.98	43.52	13.54	340	124
	189.452	21.88	12.88	PK	34.76	43.52	8.76	320	185
	201.603	27.75	11.57	PK	39.32	43.52	4.20	300	245
	297.795	23.17	15.05	PK	38.22	46.44	8.22	240	310
	996.743	15.93	27.99	QP	43.92	49.54	5.62	100	181

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	60.320	16.75	13.72	PK	30.47	39.08	8.61	100	111
	189.123	21.74	12.78	PK	34.52	43.52	9.00	115	123
	201.603	22.46	11.57	PK	34.03	43.52	9.49	145	94
	320.241	22.13	15.81	PK	37.94	46.44	8.50	325	88
	996.784	16.94	27.99	QP	44.93	49.54	4.61	400	181

- 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.

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2.5.1 Radiated Emission

Radio Noise Field Strength

Emission

Standard : FCC part 15B

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

Temperature : 23.9 °C
 Pressure : 939 hPa
 Rel. humidity: 51 %

Date : Jan 08, 2007

Class : A

Frequency Range Polarization	Limit μV/m	Passed	Failed	Number of rechecks
30 MHz – 88 MHz	90	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
88 MHz – 216 MHz	150	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
216 MHz – 960 MHz	210	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
Above 960 MHz	300	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0

Comment: See attached diagrams as appendix B

Registration number: W6M20612-7649-P-15B

Standard : FCC part 15B

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

Temperature : 23.9 °C
 Pressure : 939 hPa
 Rel. humidity: 51 %

Date : Jan 08, 2007

Class : A

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	121.676	24.46	13.48	QP	37.94	43.52	5.58	310	181
	148.557	21.30	15.27	QP	36.57	43.52	6.95	354	162
	189.103	24.26	12.88	QP	37.14	43.52	6.38	321	242
	209.619	27.63	12.31	QP	39.94	43.52	3.58	251	94
	377.959	26.11	17.17	QP	43.28	46.44	3.16	152	111
	996.784	20.05	27.37	QP	47.42	49.54	2.12	100	146

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	121.729	24.64	13.48	QP	38.12	43.52	5.40	121	192
	199.318	24.35	12.88	QP	37.23	43.52	6.29	154	176
	398.787	26.37	17.73	QP	44.10	46.44	2.34	312	120
	895.791	13.70	26.12	QP	39.82	46.49	6.67	367	134
	996.742	17.15	27.37	QP	44.52	49.54	5.02	400	85

- 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.

Registration number: W6M20612-7649-P-15B

Standard : FCC part 15B

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

Temperature : 23.9 °C
 Pressure : 939 hPa
 Rel. humidity: 51 %

Date : Jan 08, 2007

Class : A

Summary table with radiated data of the test plots

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	121.654	26.64	13.48	QP	40.12	43.52	3.40	350	140
	199.467	27.66	12.20	QP	39.86	43.52	3.66	305	260
	201.603	26.99	12.15	QP	39.14	43.52	4.38	310	182
	270.541	29.28	14.46	QP	43.74	46.44	2.70	254	94
	996.014	17.86	27.37	QP	45.23	49.54	4.31	100	154

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	121.792	25.56	13.48	QP	39.04	43.52	4.48	140	120
	175.881	24.72	14.49	QP	39.21	43.52	4.31	110	154
	209.619	22.63	12.31	QP	34.94	43.52	8.58	152	179
	398.764	26.50	17.73	QP	44.23	46.44	2.21	310	211
	996.799	17.80	27.37	QP	45.17	49.54	4.37	400	180

- 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.

Registration number: W6M20612-7649-P-15B

2.5.2 Conducted Emission

Conducted Emission

Emission

Standard : FCC part 15B

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

Date : Dec 13-15, 2006

Class : A

Temperature : 23.9 °C
 Pressure : 939 hPa
 Rel. humidity: 51 %

Frequency Range	Limit Db μ V		Passed	Failed	Number of rechecks
	Quasi-peak	Average			
150 kHz – 500 kHz AC	79	66	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
0.5 MHz – 30 MHz AC	73	60	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0

*Decreases with logarithm of the frequency

Comment: See attached diagrams as appendix C.

Registration number: W6M20612-7649-P-15B

Standard : FCC part 15B

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

Date : Dec 13, 2006

Class : A

Temperature : 23.9 °C
Pressure : 939 hPa
Rel. humidity: 51 %

CD-ROM Mode

LISN type	Frequency Marker	Corrected Reading (dBuV)		Correction Factor	Test Result (dBuV)		Compliance Limit (dBuV)		Margin (dB)	
		QP	AV		dB	QP	AV	QP	AV	QP
N	MHz	QP	AV	dB	QP	AV	QP	AV	QP	AV
	0.180	45.00	33.96	10.1	55.10	44.06	79	66	23.9	21.94
	4.280	54.29	36.17	10.1	64.39	46.27	73	60	8.61	13.73
	10.495	53.59	39.97	10.1	63.69	50.07	73	60	9.31	9.93

LISN type	Frequency Marker	Corrected Reading (dBuV)		Correction Factor	Test Result (dBuV)		Compliance Limit (dBuV)		Margin (dB)	
		QP	AV		dB	QP	AV	QP	AV	QP
L1	MHz	QP	AV	dB	QP	AV	QP	AV	QP	AV
	0.185	46.33	25.36	10.1	56.43	35.46	79	66	22.57	30.54
	4.305	54.43	37.54	10.1	64.53	47.64	73	60	8.47	12.36
	10.645	53.72	40.21	10.1	63.82	50.31	73	60	9.18	9.69

- 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

Registration number: W6M20612-7649-P-15B

Standard : FCC part 15B

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

Date : Dec 15, 2006

Class : A

Temperature : 23.9 °C
Pressure : 939 hPa
Rel. humidity: 51 %

HD Mode

LISN type	Frequency Marker	Corrected Reading (dBuV)		Correction Factor	Test Result (dBuV)		Compliance Limit (dBuV)		Margin (dB)	
		QP	AV		dB	QP	AV	QP	AV	QP
N	MHz	QP	AV	dB	QP	AV	QP	AV	QP	AV
	0.175	45.51	33.25	10.1	55.61	43.35	79	66	23.39	22.65
	3.760	36.44	32.84	10.1	46.54	42.94	73	60	26.46	17.06
	13.310	39.07	27.56	10.1	49.17	37.66	73	60	23.83	22.34

LISN type	Frequency Marker	Corrected Reading (dBuV)		Correction Factor	Test Result (dBuV)		Compliance Limit (dBuV)		Margin (dB)	
		QP	AV		dB	QP	AV	QP	AV	QP
L1	MHz	QP	AV	dB	QP	AV	QP	AV	QP	AV
	0.180	42.90	32.15	10.1	53.00	42.25	79	66	26.00	23.75
	3.075	31.89	26.76	10.1	41.99	36.86	73	60	31.01	23.14
	13.05	42.20	25.40	10.1	52.30	35.50	73	60	20.70	24.50

- 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

Registration number: W6M20612-7649-P-15B

2.6 Equipment Modification

No modification was made to pass all tests.

3 Normative references

- /1/ FCC part 15
Radio Frequency Devises
- /2/ CISPR 22
Limits and Methods of Measurement of Radio Interference Characteristics of Information
Technology Equipment

Appendix

- A Radiated Emission of DG94 SERIES DG094 XXXXXXXX (X→ 0~9, A~Z)
- B Radiated Emission of Y3K SERIES DG094 XXXXXXXX (X→ 0~9, A~Z)
and SPECO SERIES DG094 XXXXXXXX (X→ 0~9, A~Z)
- C Conducted Emission
- D Pictures

Appendix A

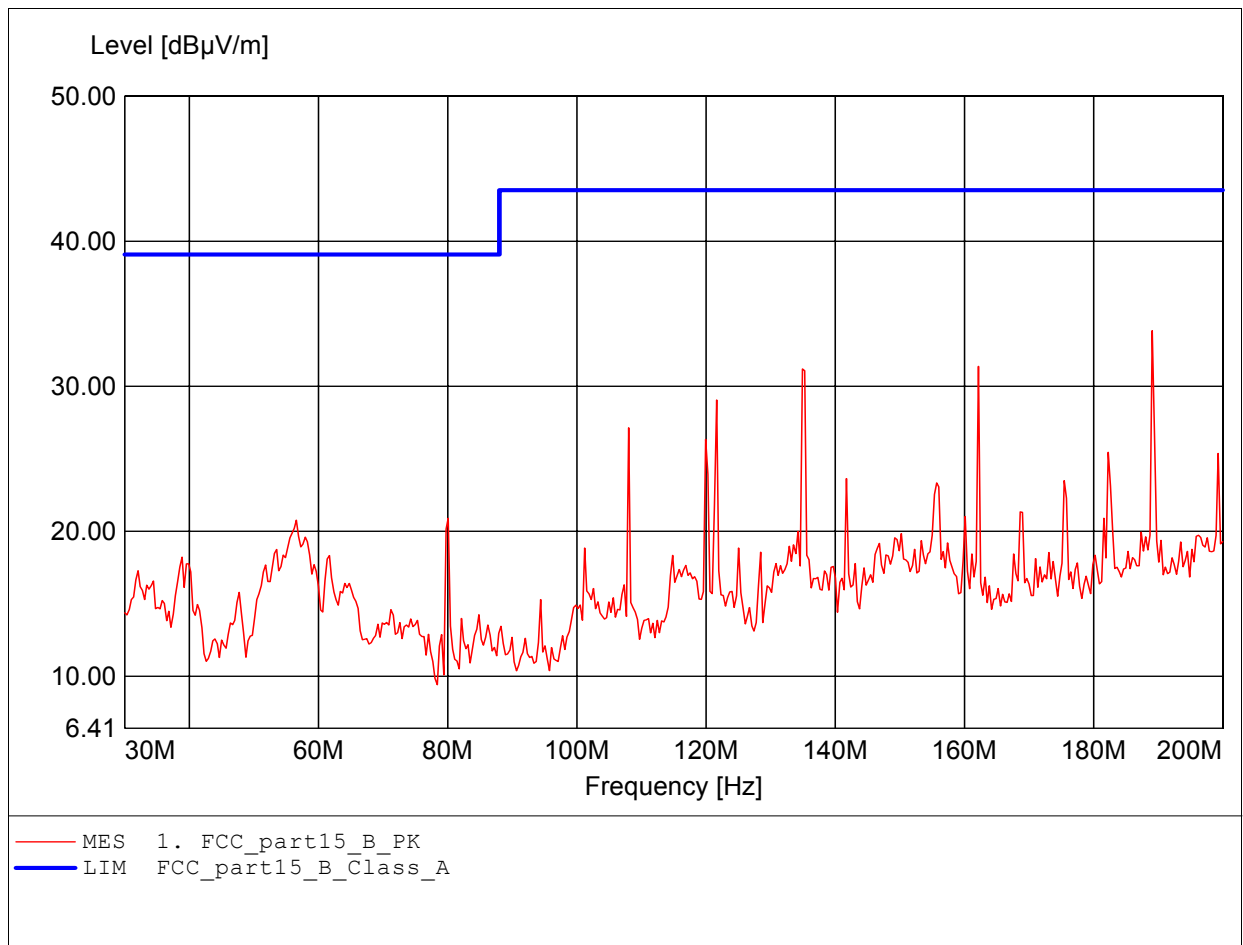
Radiated Emission of DG94 SERIES DG094 XXXXXXXX (X→ 0~9, A~Z)

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 section 2.5.1

Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

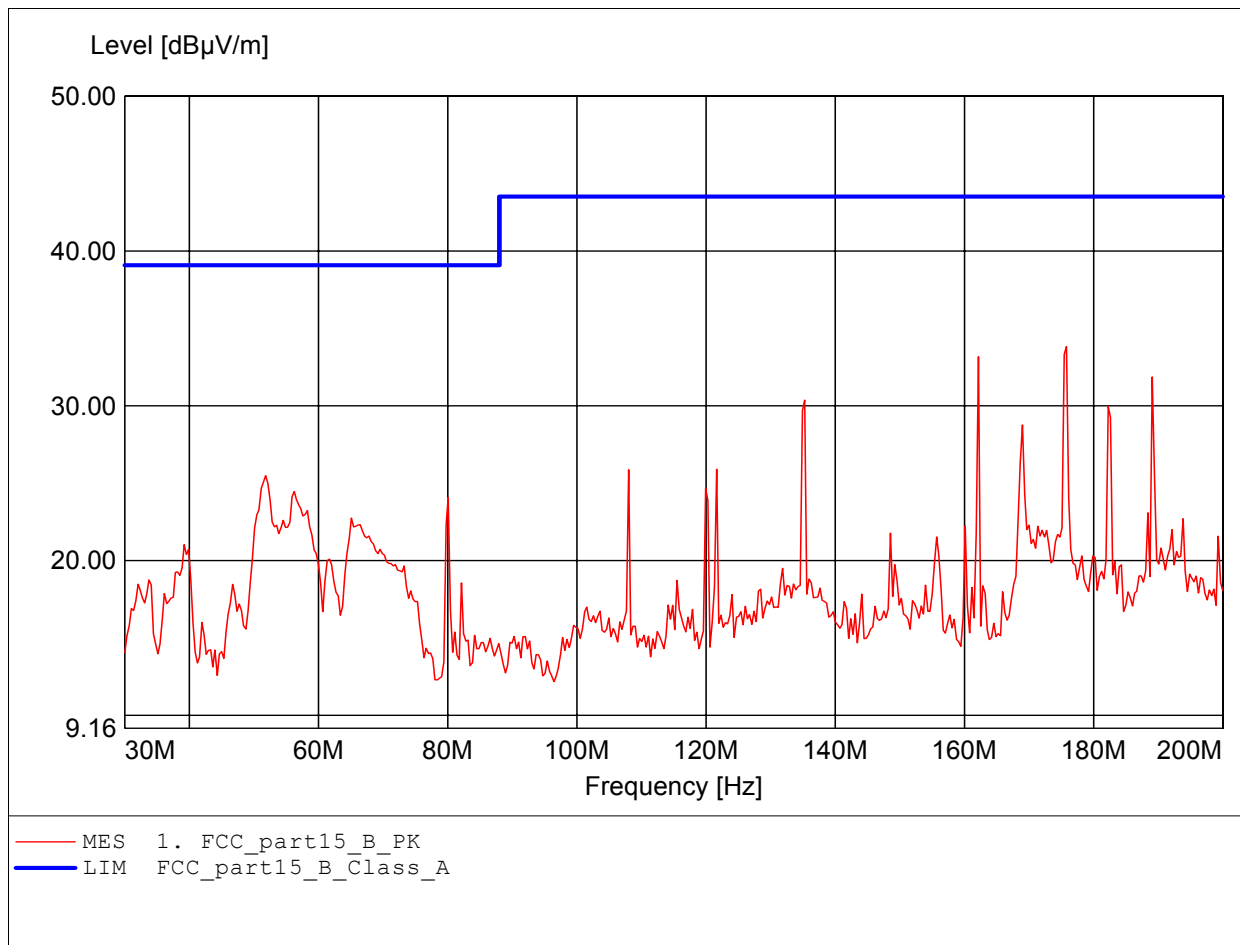
Order Number: W6M20612-7649 CD-ROM Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:189.098MHz Emax:33.82dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

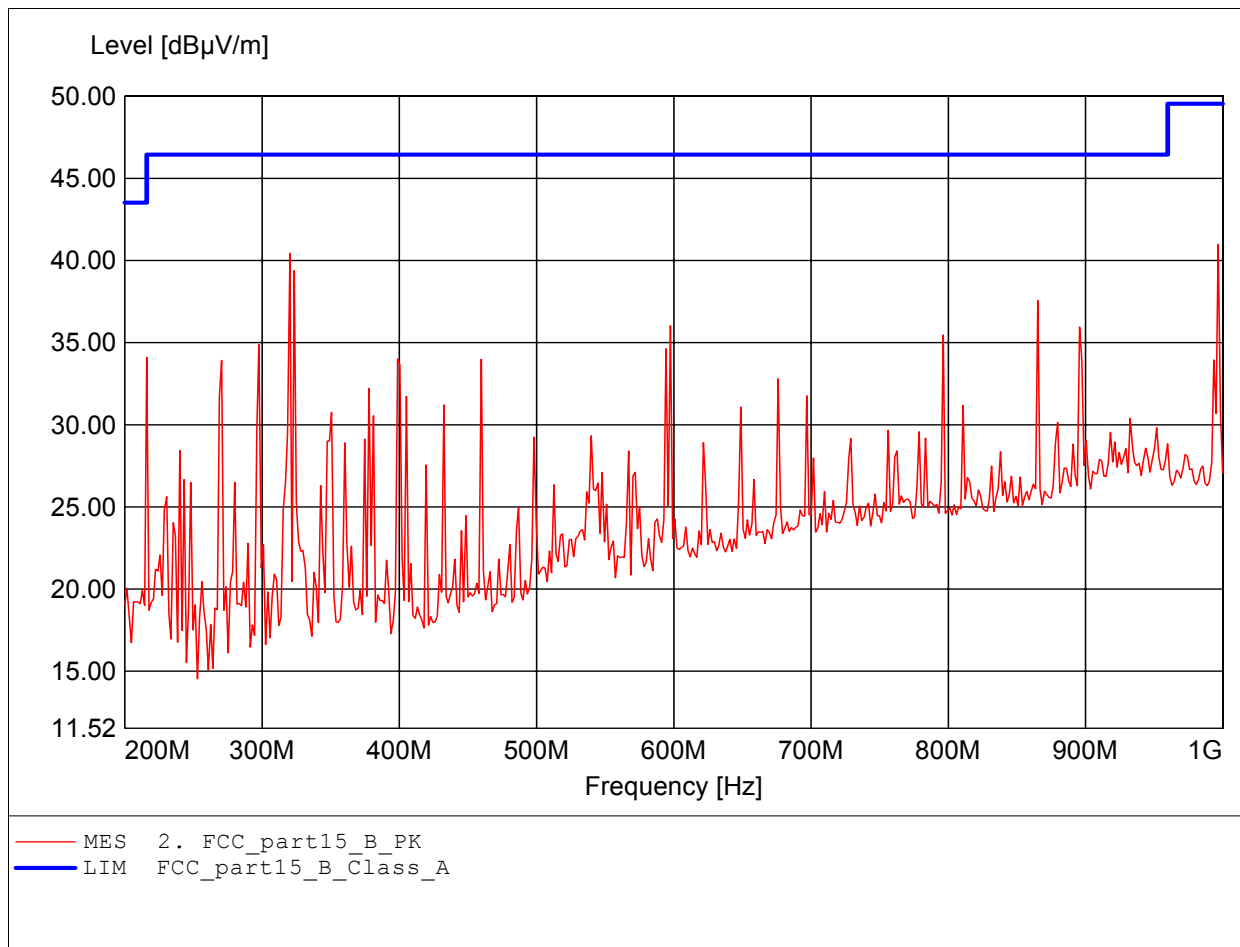
Order Number: W6M20612-7649 CD-ROM Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:175.812MHz Emax:33.83dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

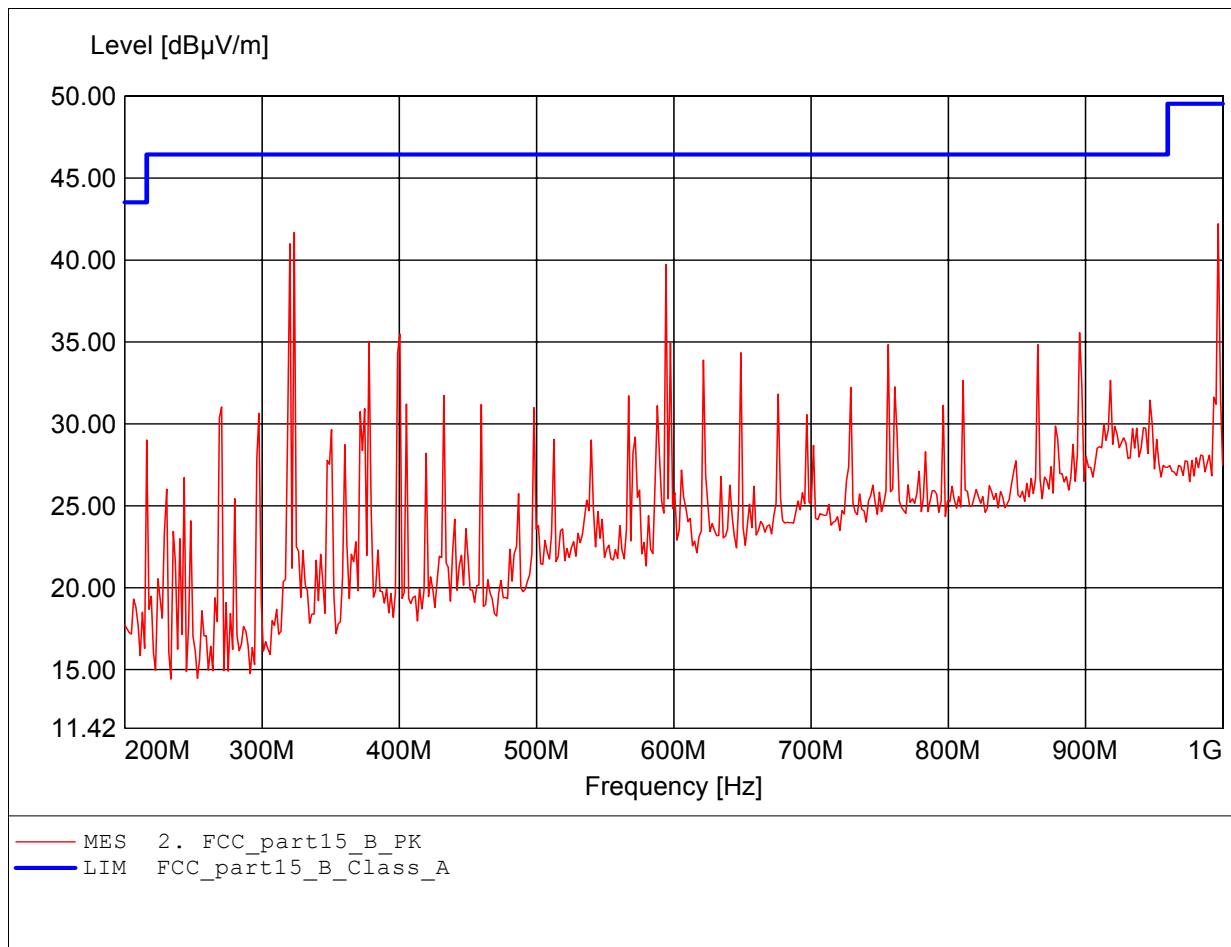
Order Number: W6M20612-7649 CD-ROM Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:996.794MHz Emax:40.98dBμV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

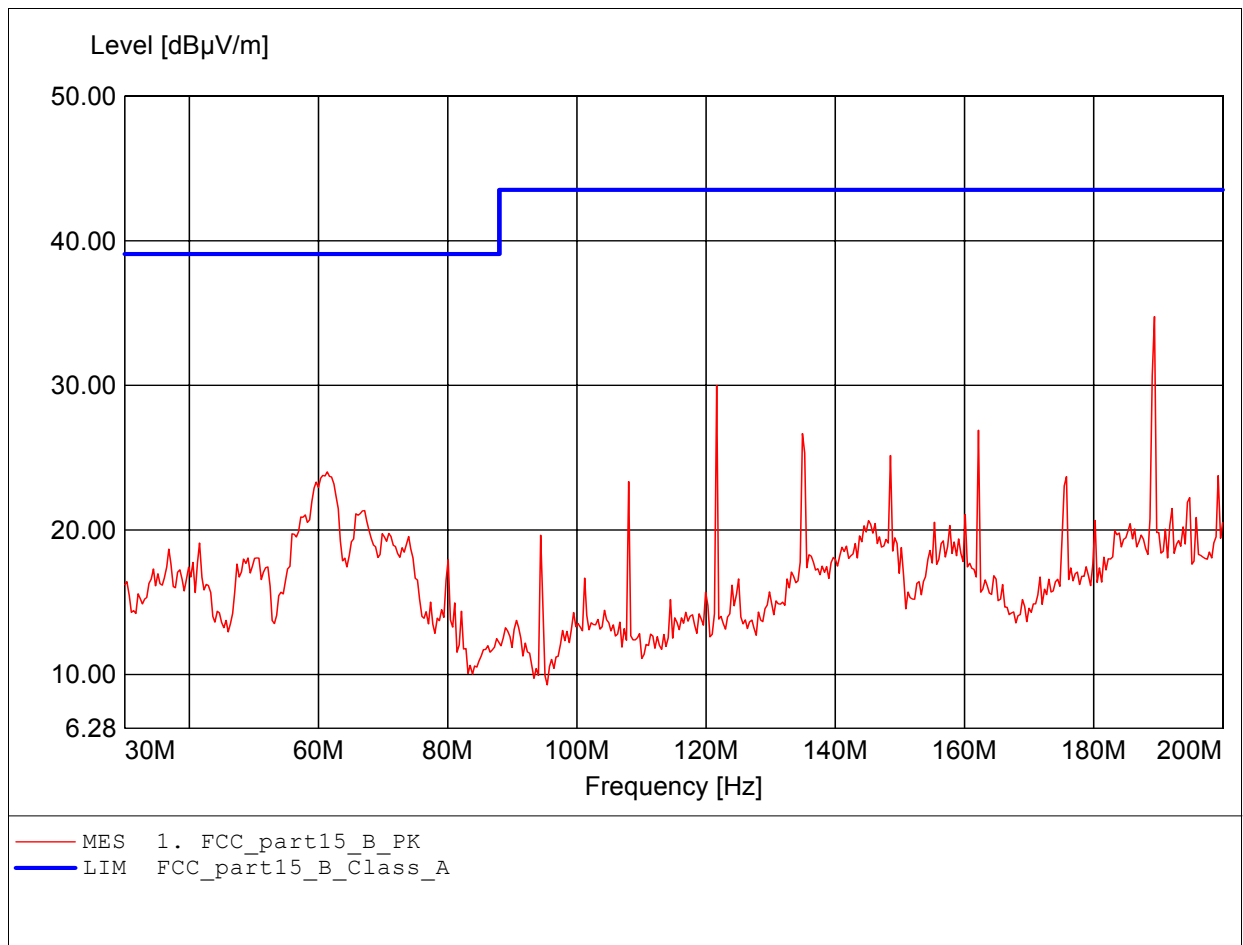
Order Number: W6M20612-7649 CD-ROM Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:996.794MHz Emax:42.21dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

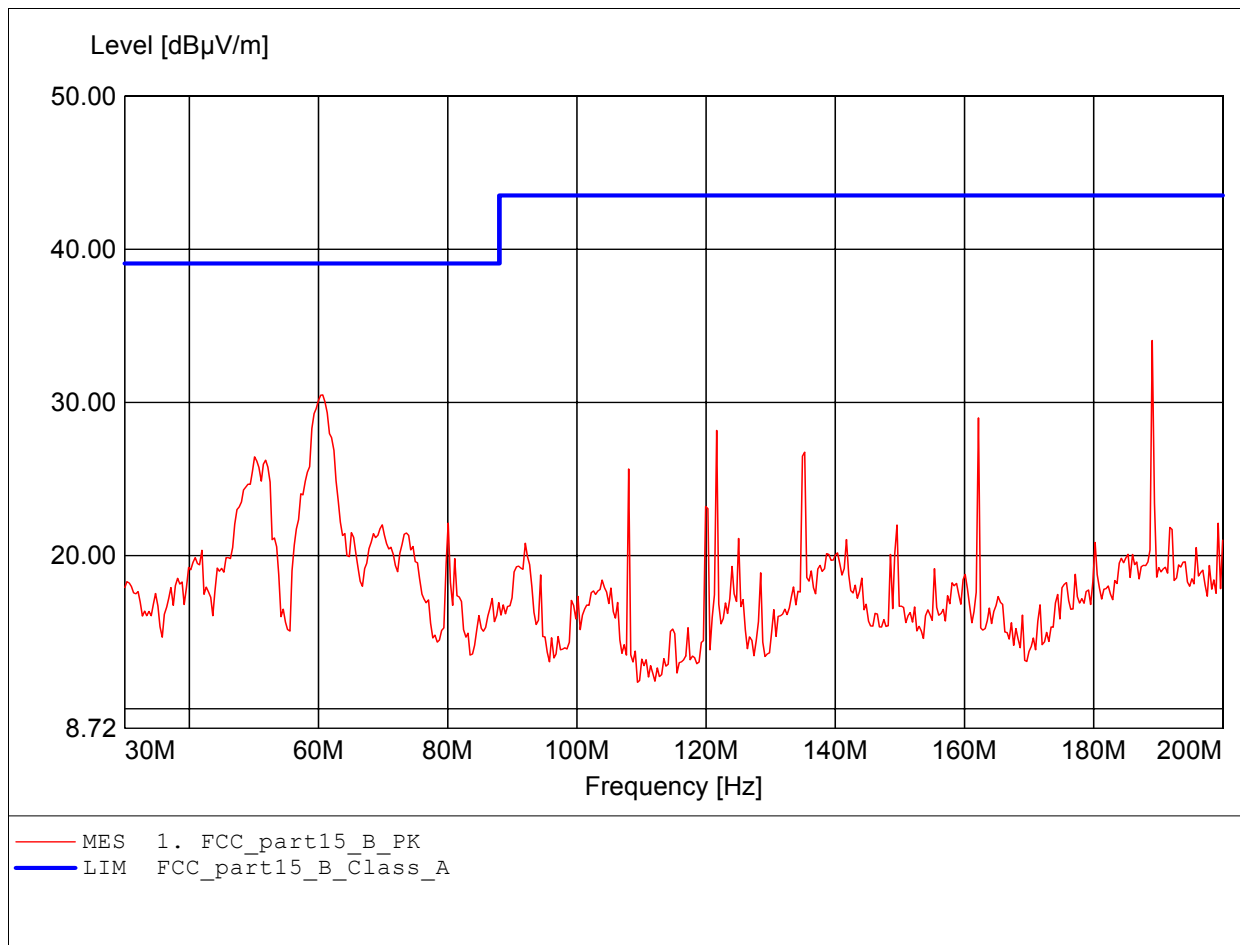
Order Number: W6M20612-7649 HD Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:189.439MHz Emax:34.76dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

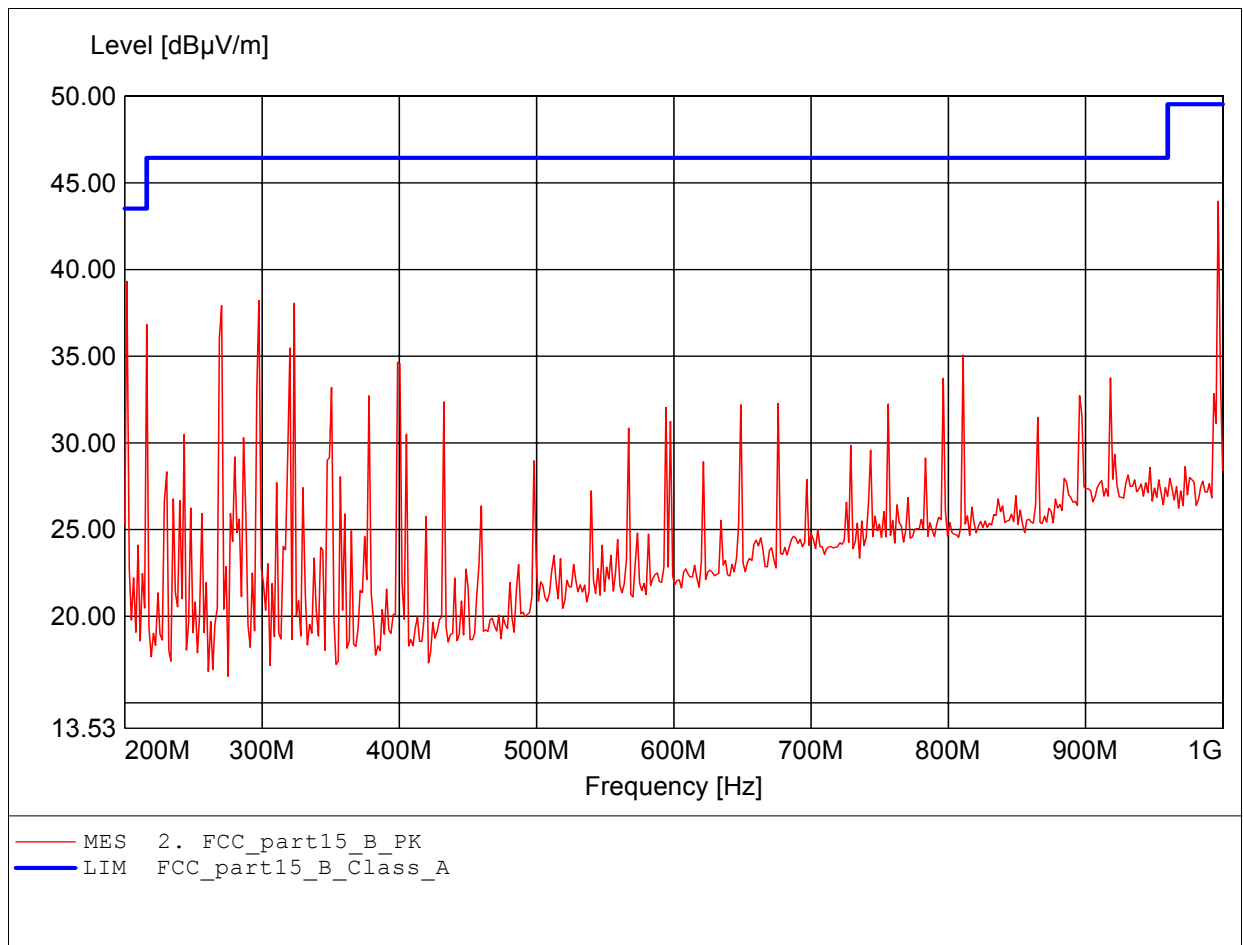
Order Number: W6M20612-7649 HD Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:189.098MHz Emax:34.05dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

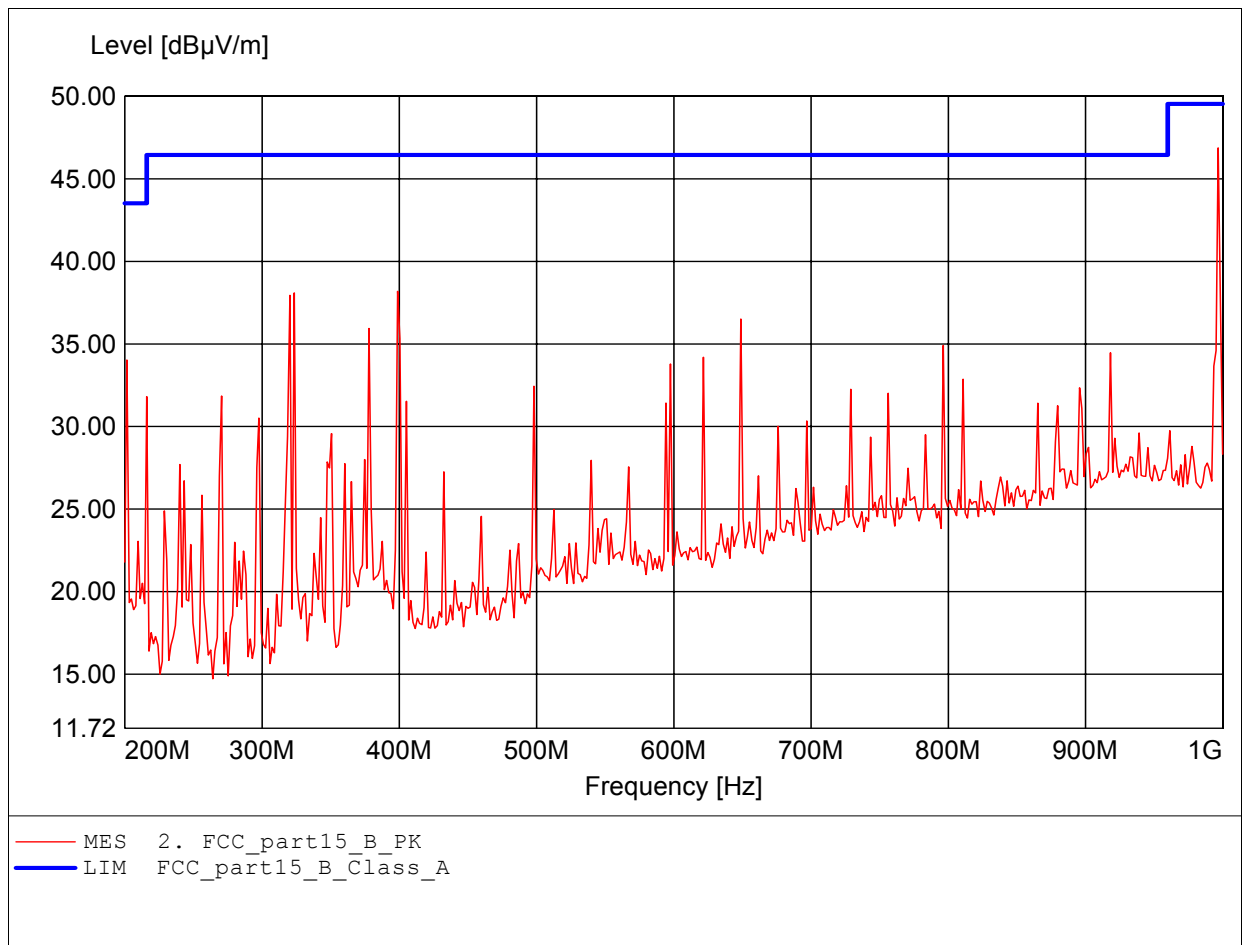
Order Number: W6M20612-7649 HD Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:996.794MHz Emax:43.94dBμV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

Order Number: W6M20612-7649 HD Mode
Operator: Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:996.794MHz Emax:46.88dBμV/m RBW: 100 kHz



Appendix B

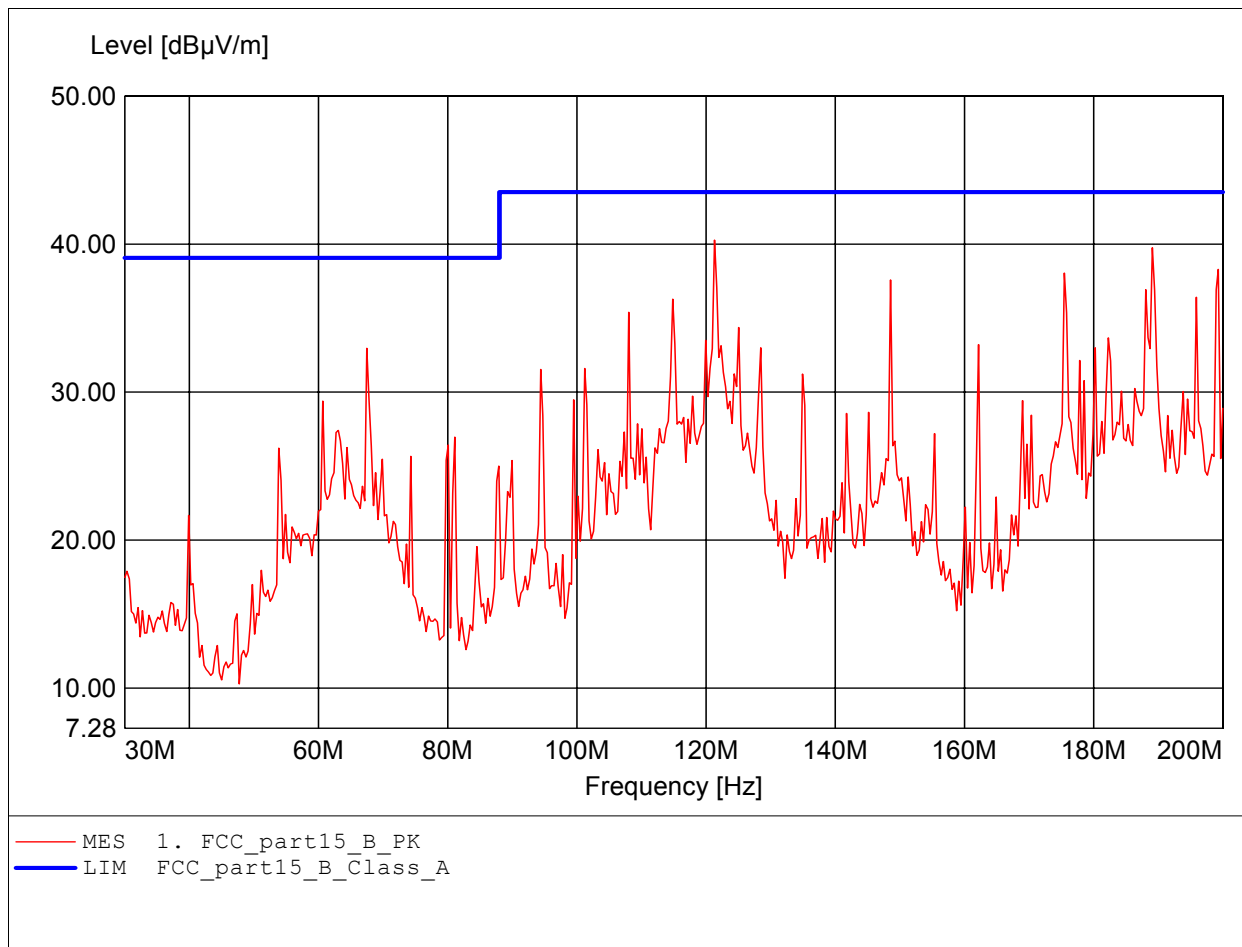
Radiated Emission of Y3K SERIES DG094 XXXXXXXX (X→ 0~9, A~Z) and
SPECO SERIES DG094 XXXXXXXX (X→ 0~9, A~Z)

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 section 2.5.1

Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

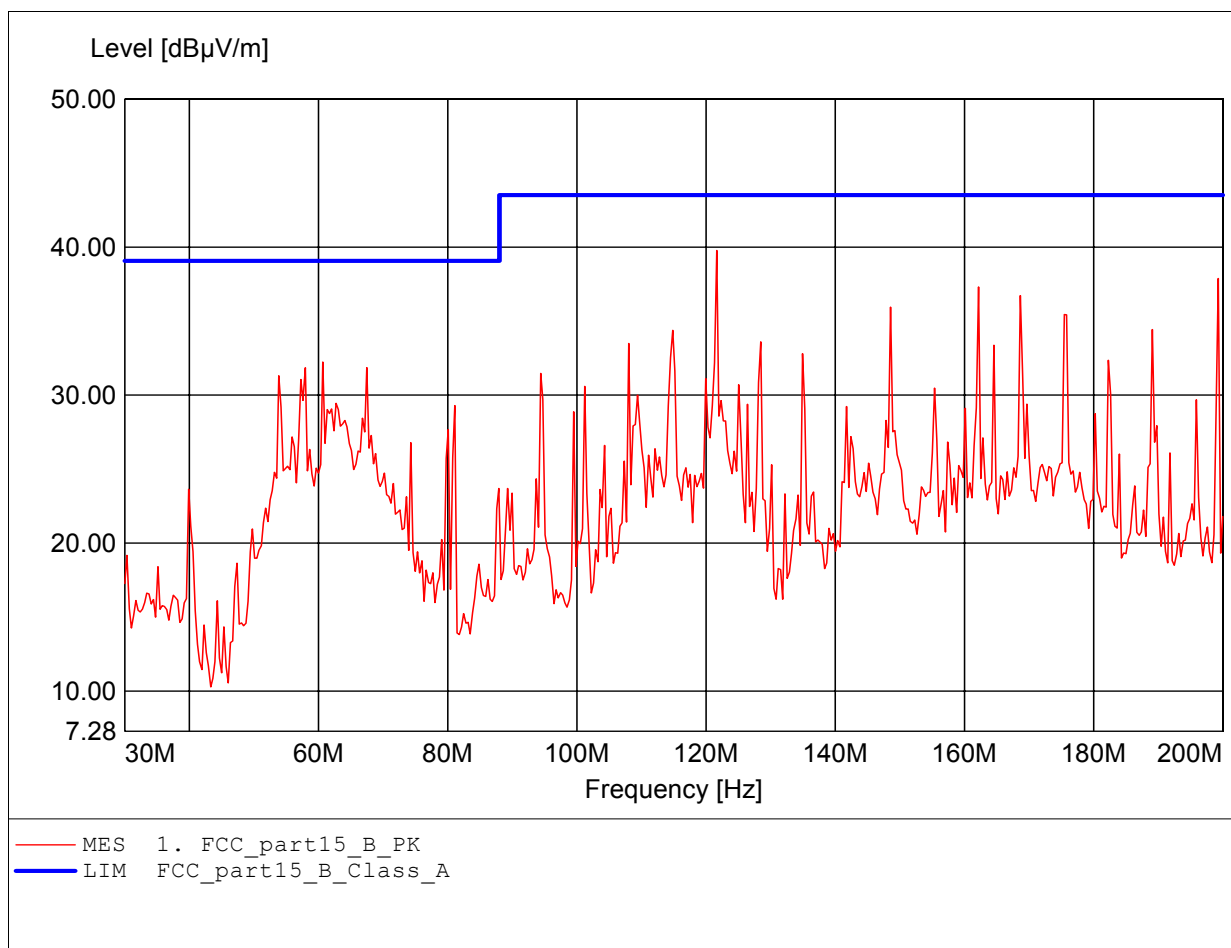
Order Number: W6M20612-7649-R CD-ROM Mode
Test Site / Operator: ETS / Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:121.303MHz Emax:40.27dBμV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

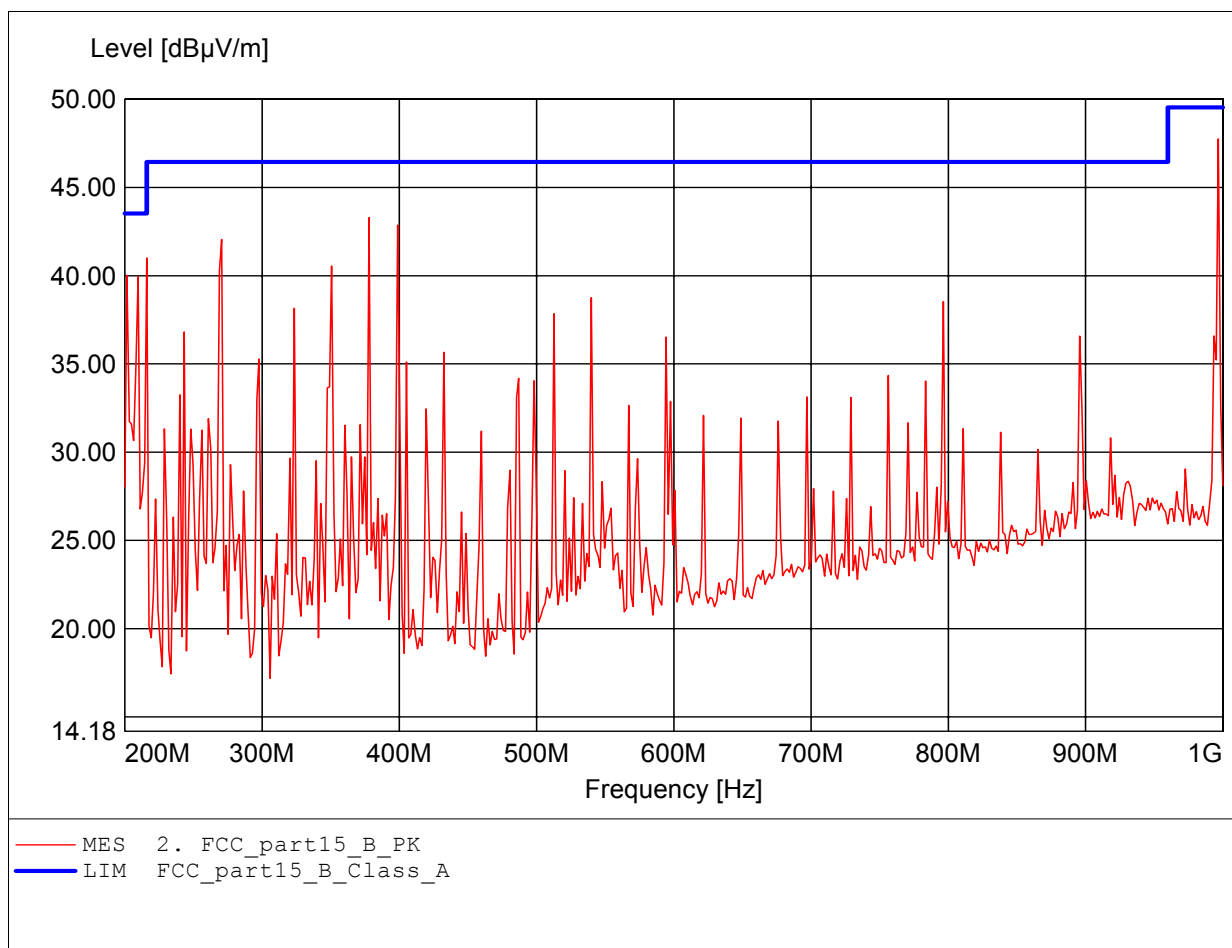
Order Number: W6M20612-7649-R CD-ROM Mode
Test Site / Operator: ETS / Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:121.643MHz Emax:39.78dBuV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

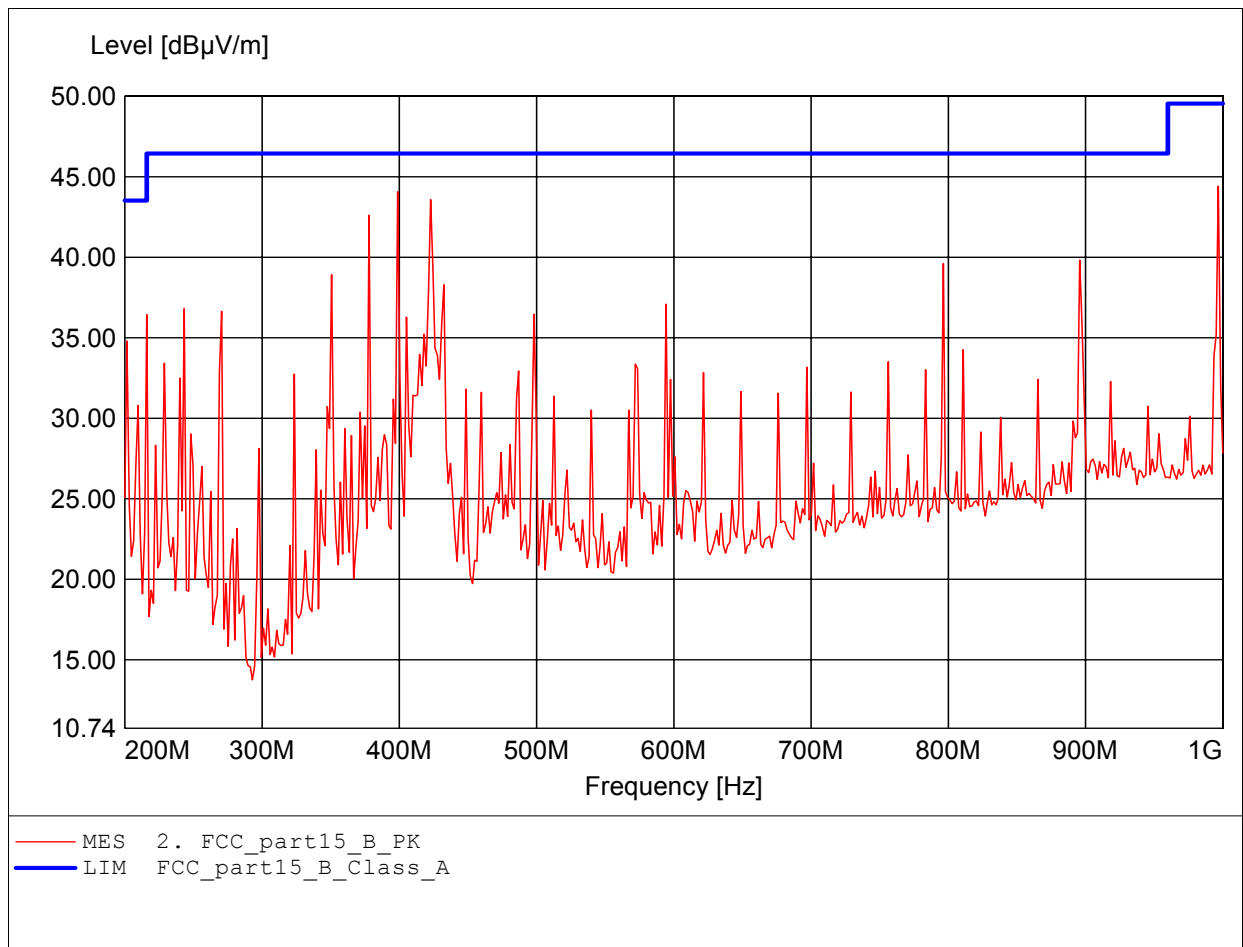
Order Number: W6M20612-7649-R CD-ROM Mode
Test Site / Operator: ETS / Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:996.794MHz Emax:47.75dBμV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

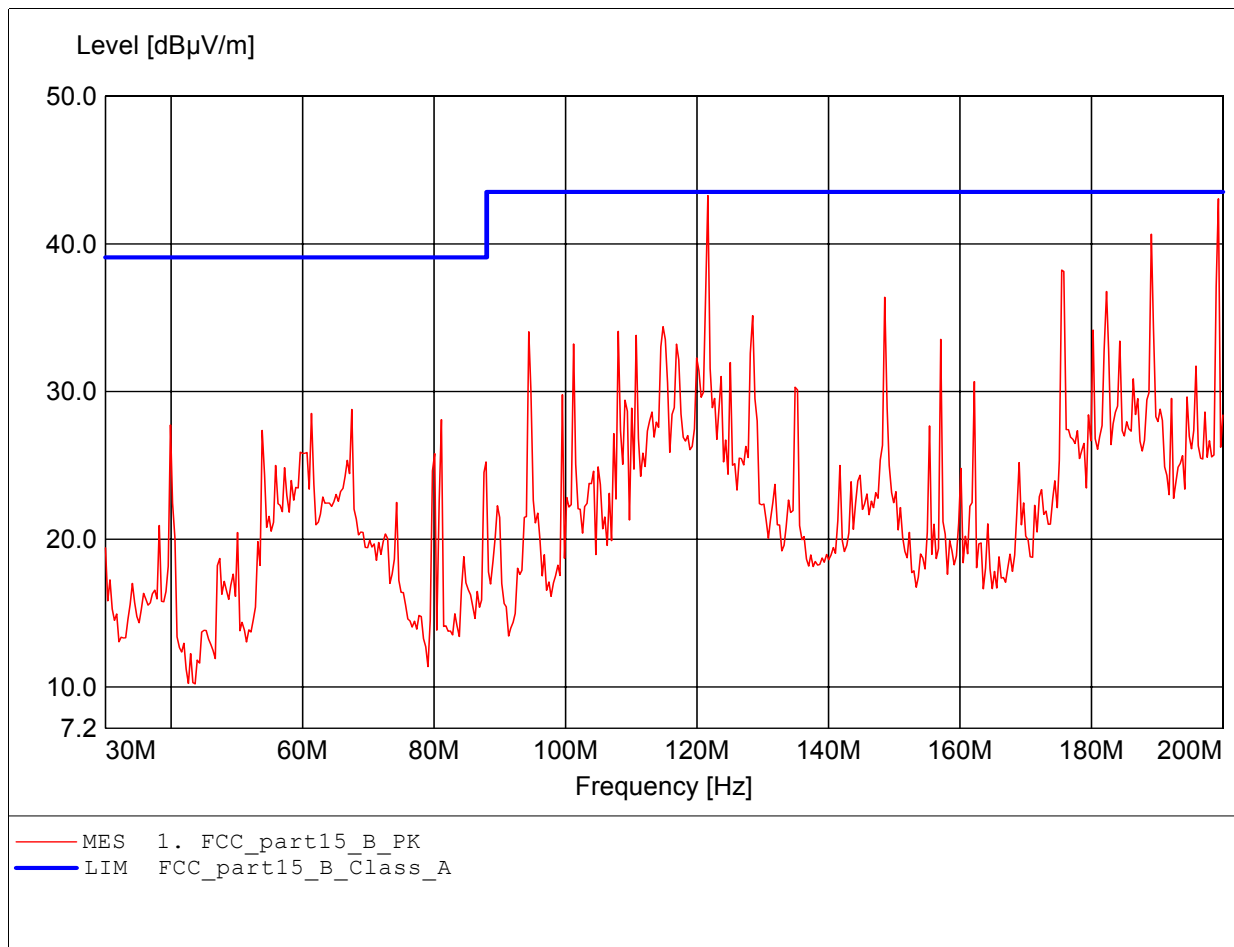
Order Number: W6M20612-7649-R CD-ROM Mode
Test Site / Operator: ETS / Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:996.794MHz Emax:44.41dBuV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

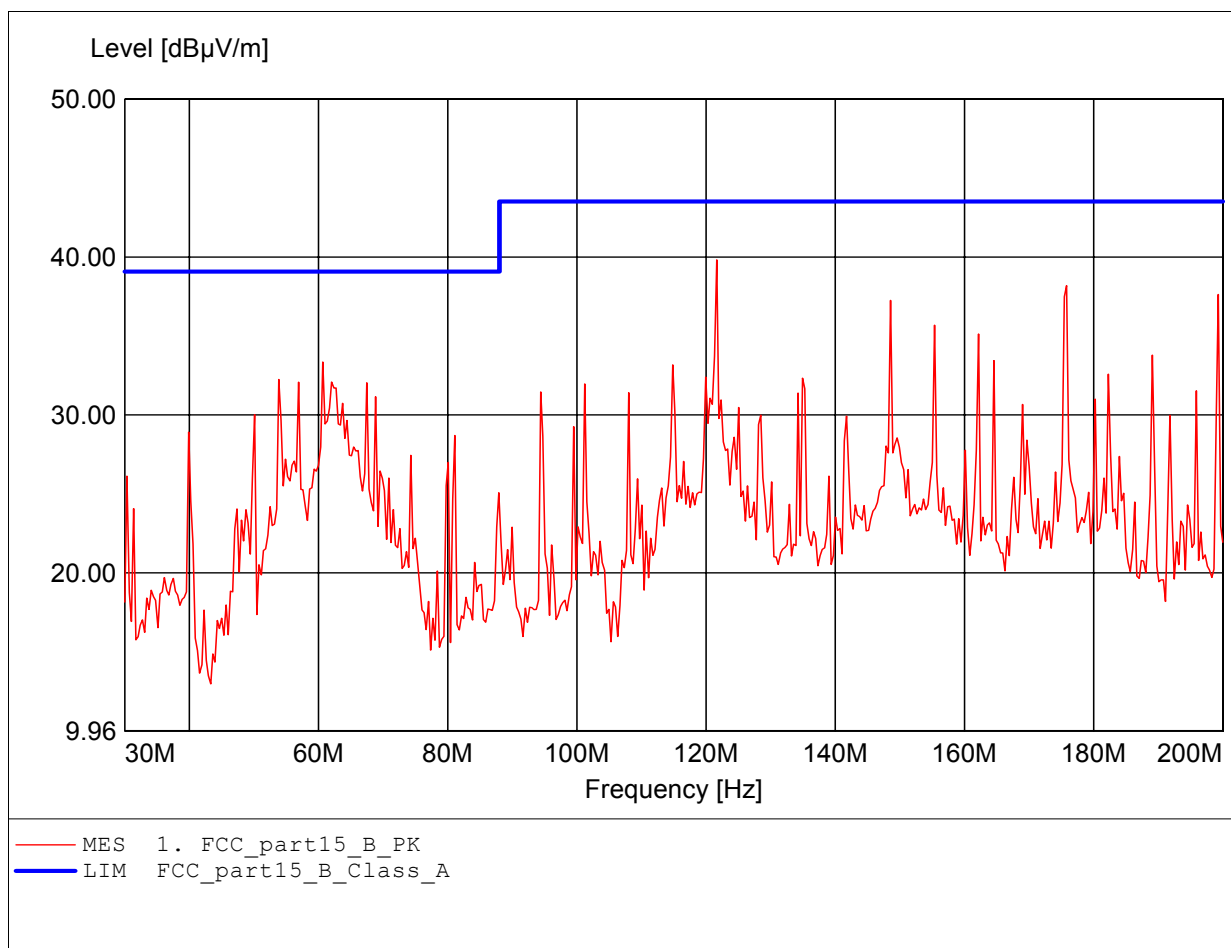
Order Number: W6M20612-7649-R HD Mode
Test Site / Operator: ETS / Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:121.643MHz Emax:43.27dBuV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

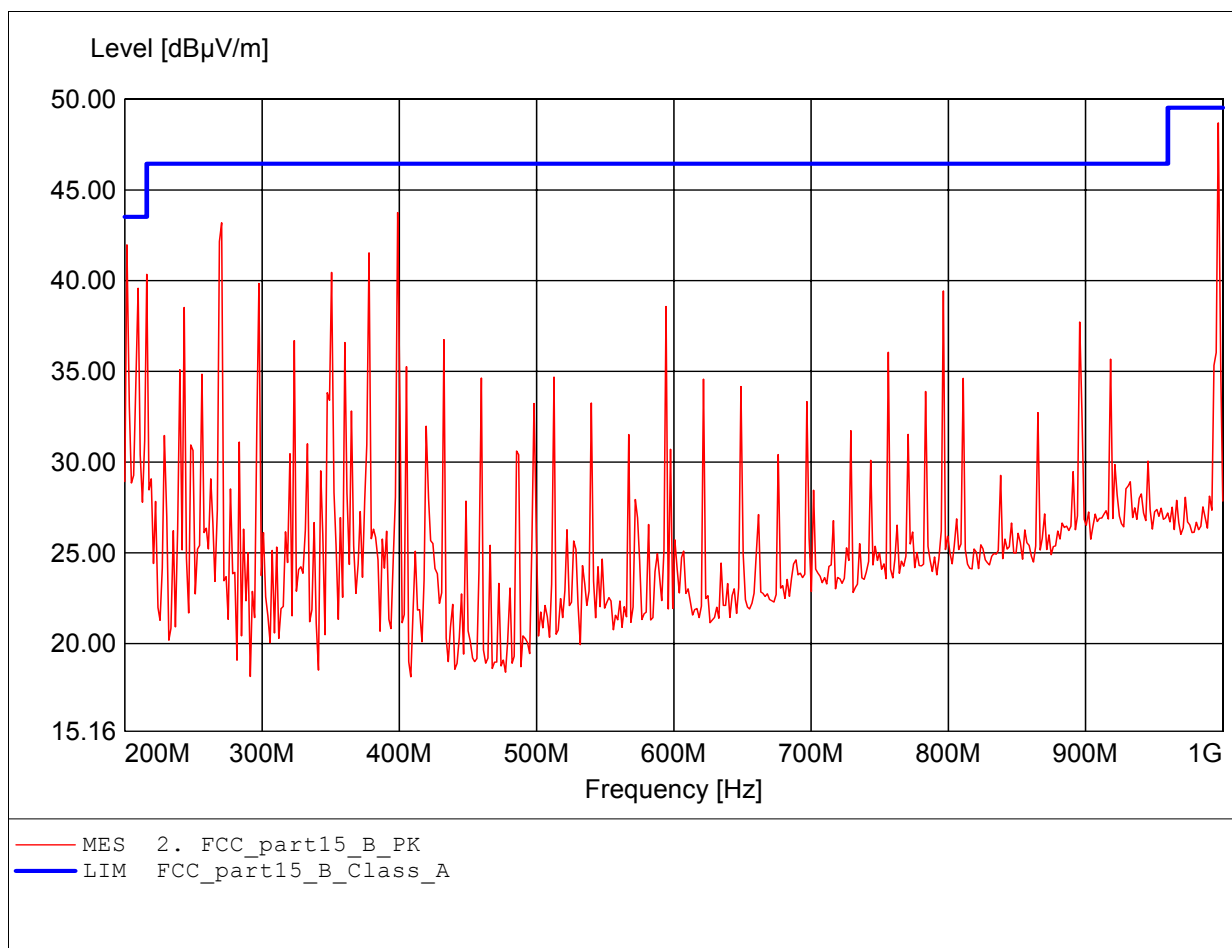
Order Number: W6M20612-7649-R HD Mode
Test Site / Operator: ETS / Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:121.643MHz Emax:39.82dBμV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

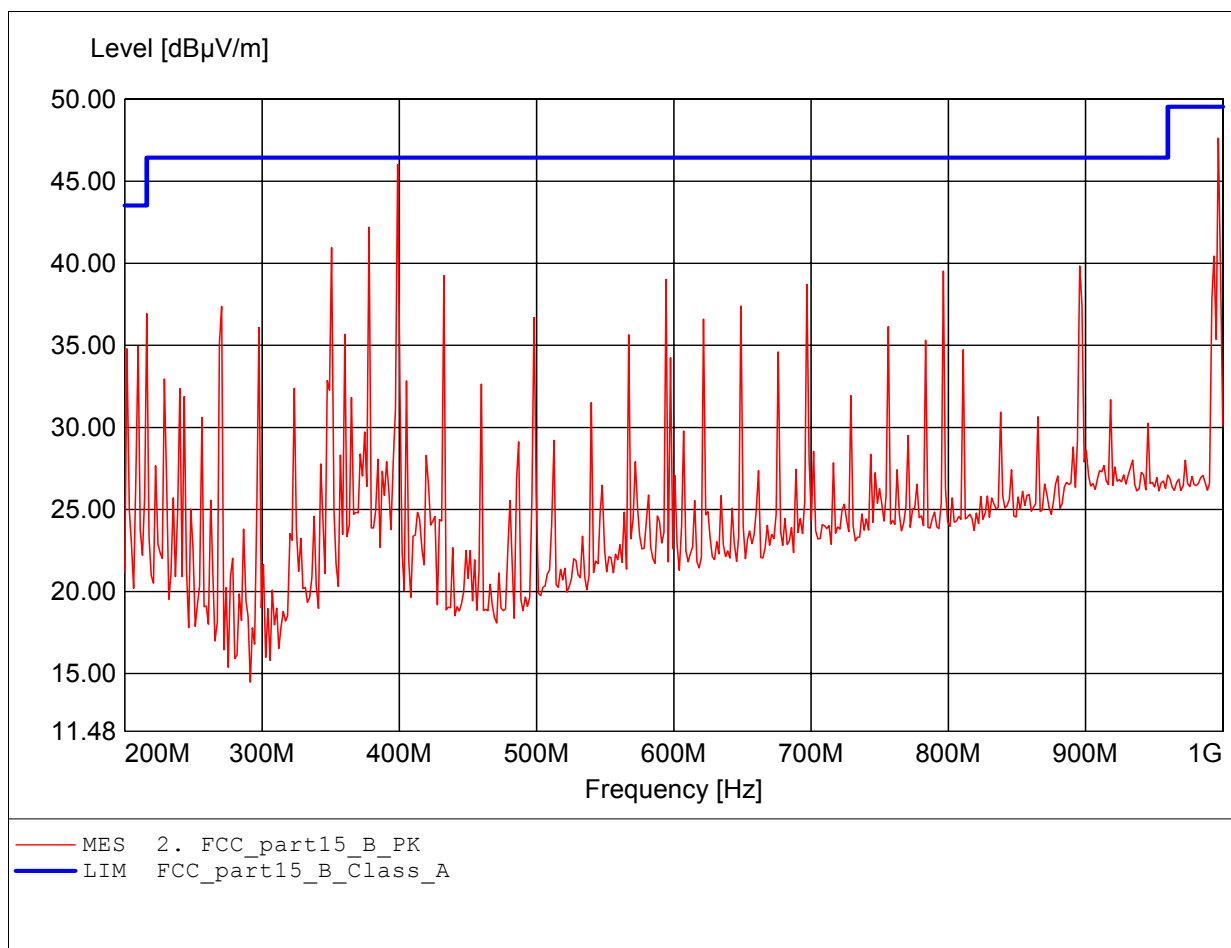
Order Number: W6M20612-7649-R HD Mode
Test Site / Operator: ETS / Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:996.794MHz Emax:48.70dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

FCC RULES PART 15, SUBPART B

Order Number: W6M20612-7649-R HD Mode
Test Site / Operator: ETS / Jason
Temperature: Temp.: 23.9°C
Ttest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:996.794MHz Emax:47.63dBuV/m RBW: 100 kHz



Appendix C

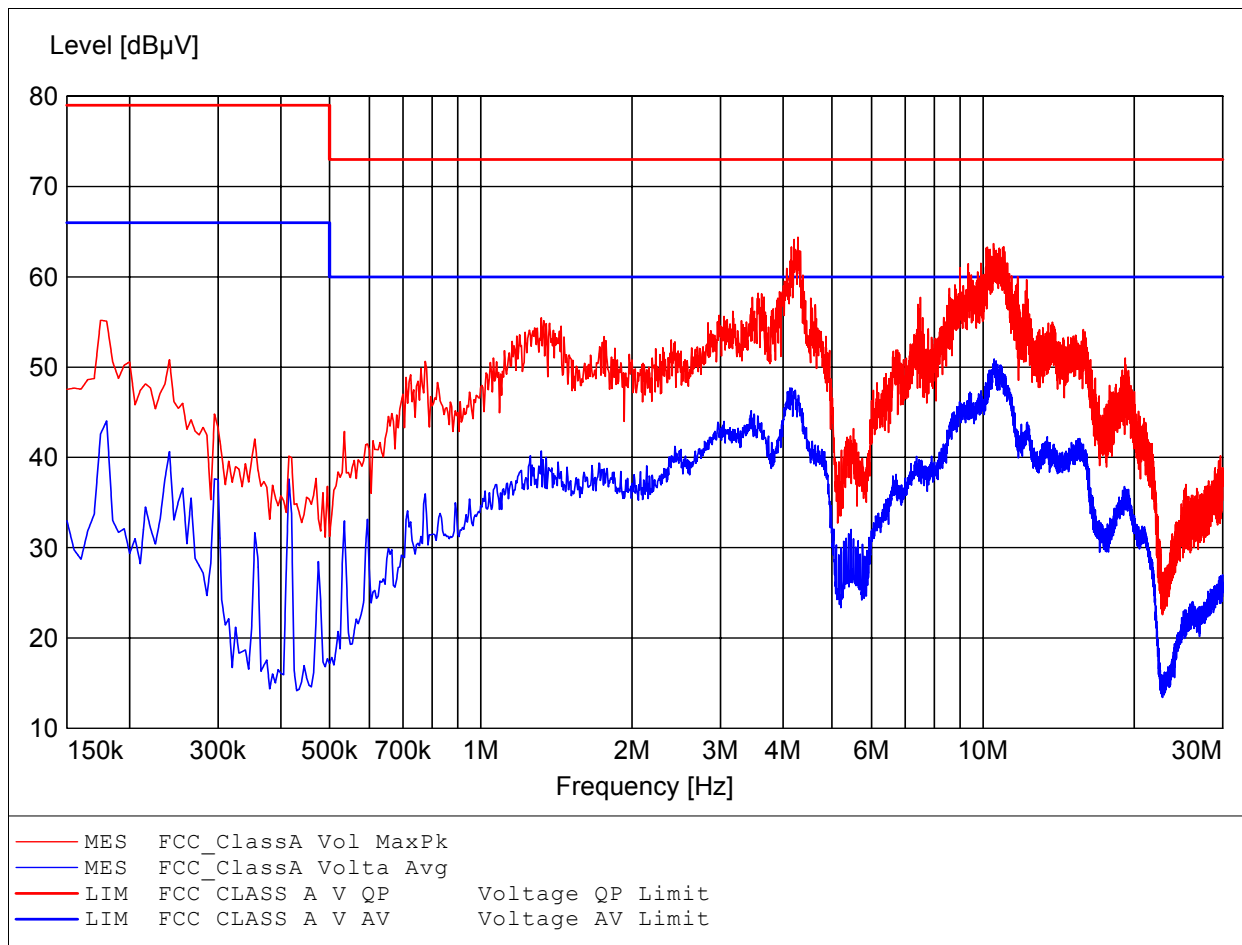
Conducted Emission

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 section 2.5.2

EMI voltage test in the ac-mains according to FCC PART 15

CLASS A

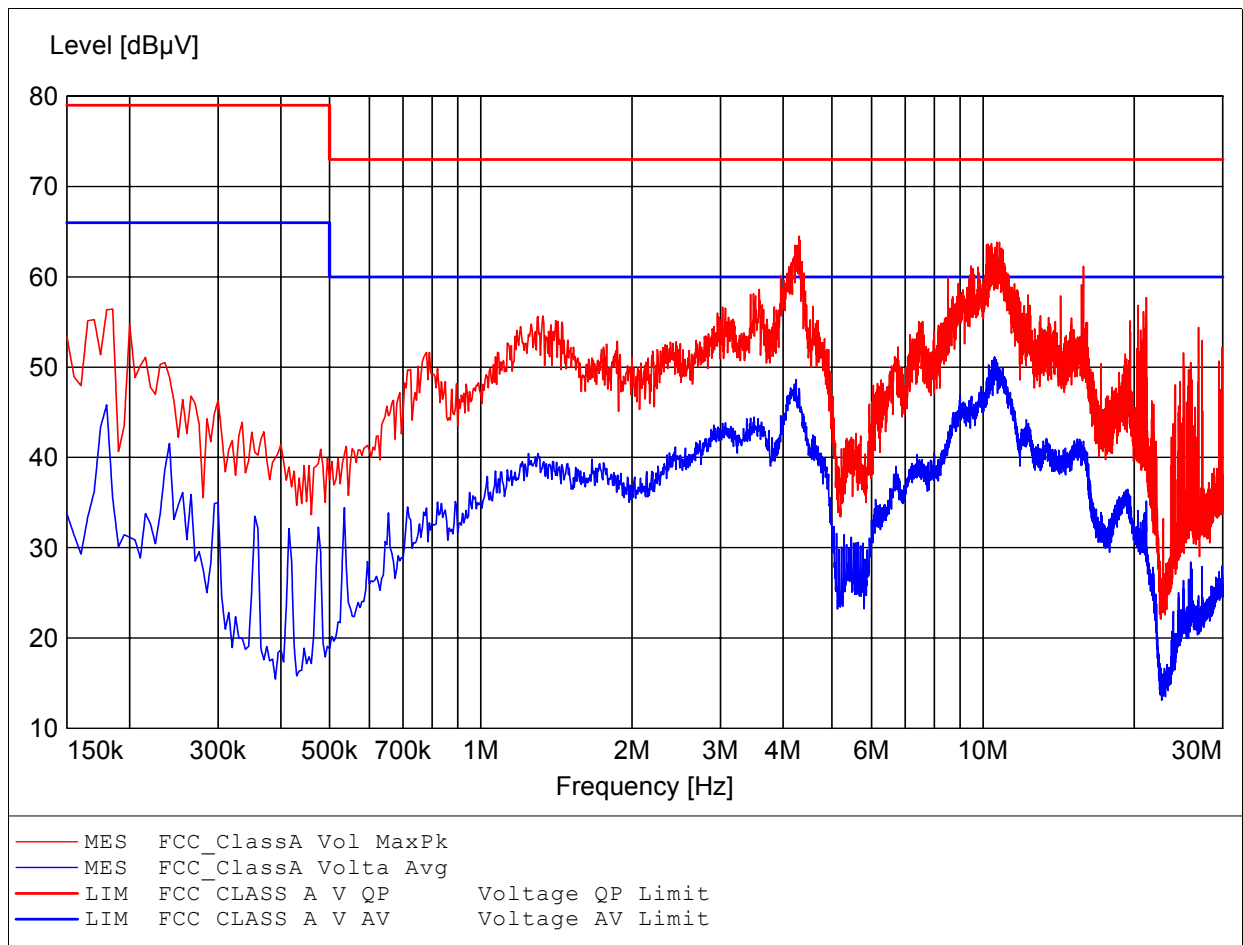
Order Number: W6M20612-7649 CD-ROM Mode
Operating Condition: Tnom: 23.9°C
Test Site: ETS
Operator: Jason
Test Specification: V-network: ESH3-Z5 N



EMI voltage test in the ac-mains according to FCC PART 15

CLASS A

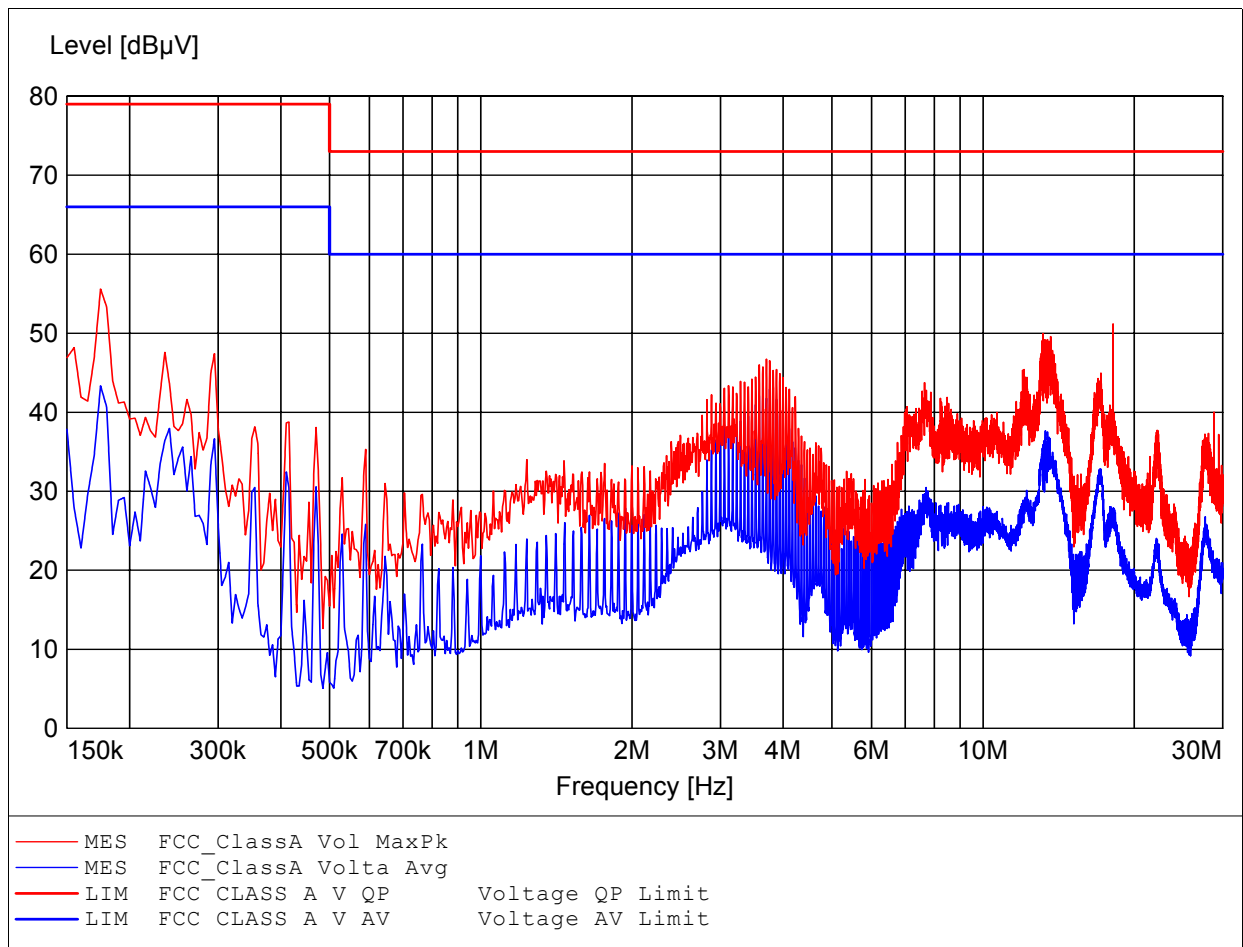
Order Number: W6M20612-7649 CD-ROM Mode
Operating Condition: Tnom: 23.9°C
Test Site: ETS
Operator: Jason
Test Specification: V-network: ESH3-Z5 L1



EMI voltage test in the ac-mains according to FCC PART 15

CLASS A

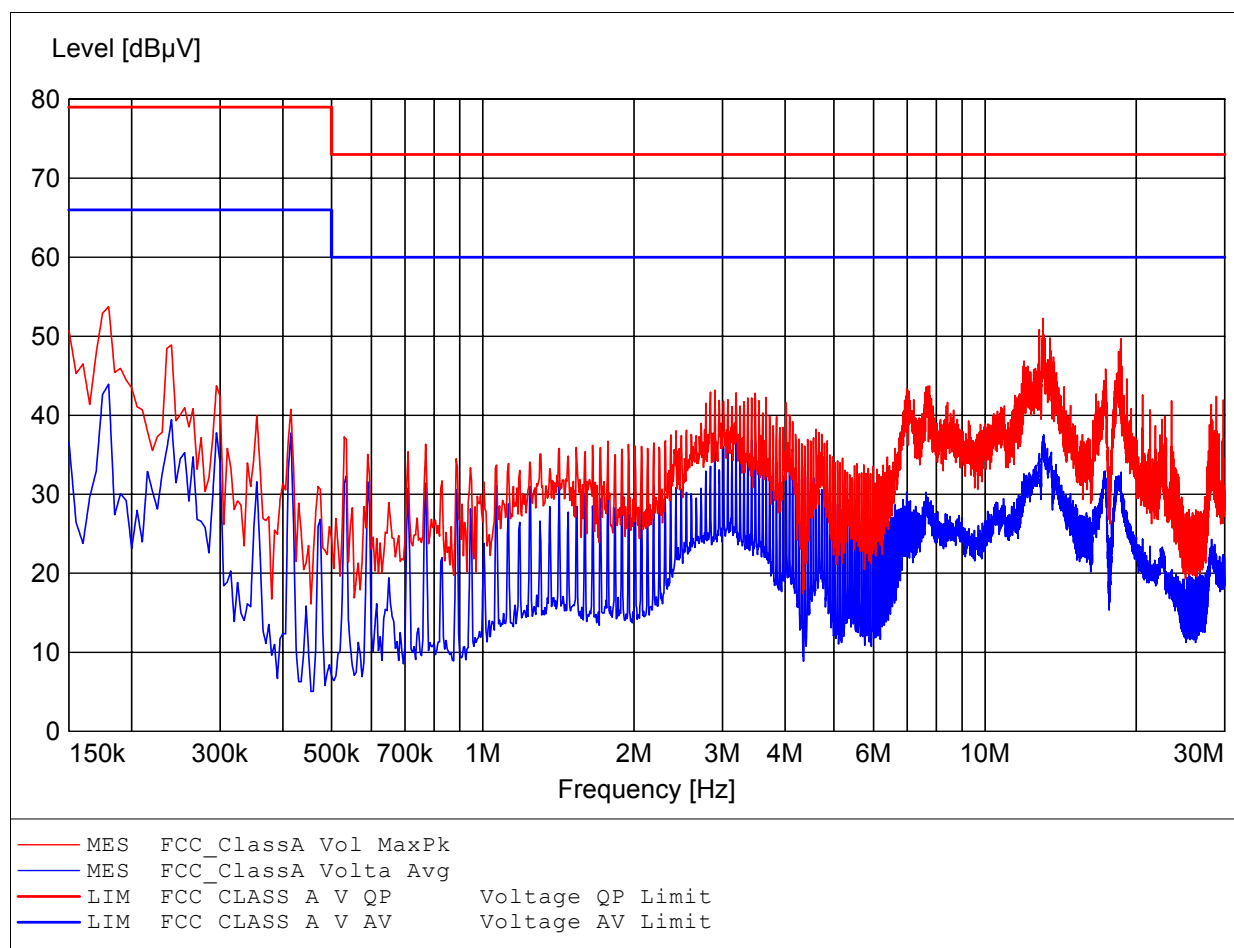
Order Number: W6M20612-7649 HD Mode
Operating Condition: Tnom: 23.9°C
Test Site: ETS
Operator: Jason
Test Specification: V-network: ESH3-Z5 N



EMI voltage test in the ac-mains according to FCC PART 15

CLASS A

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

Registration number: W6M20612-7649-P-15B

External Photos

Registration number: W6M20612-7649-P-15B

CD-ROM



Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B

HD



Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B



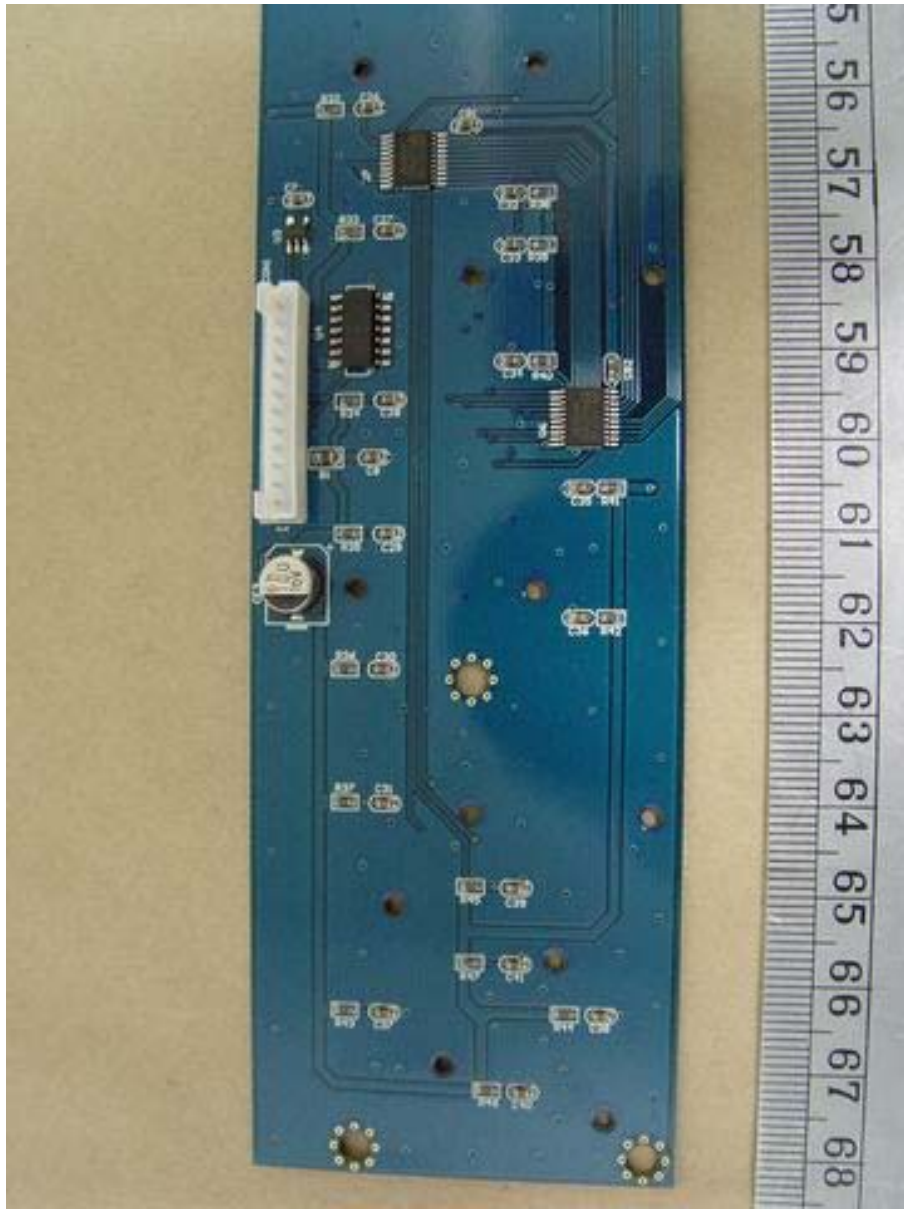
Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B

Internal Photos

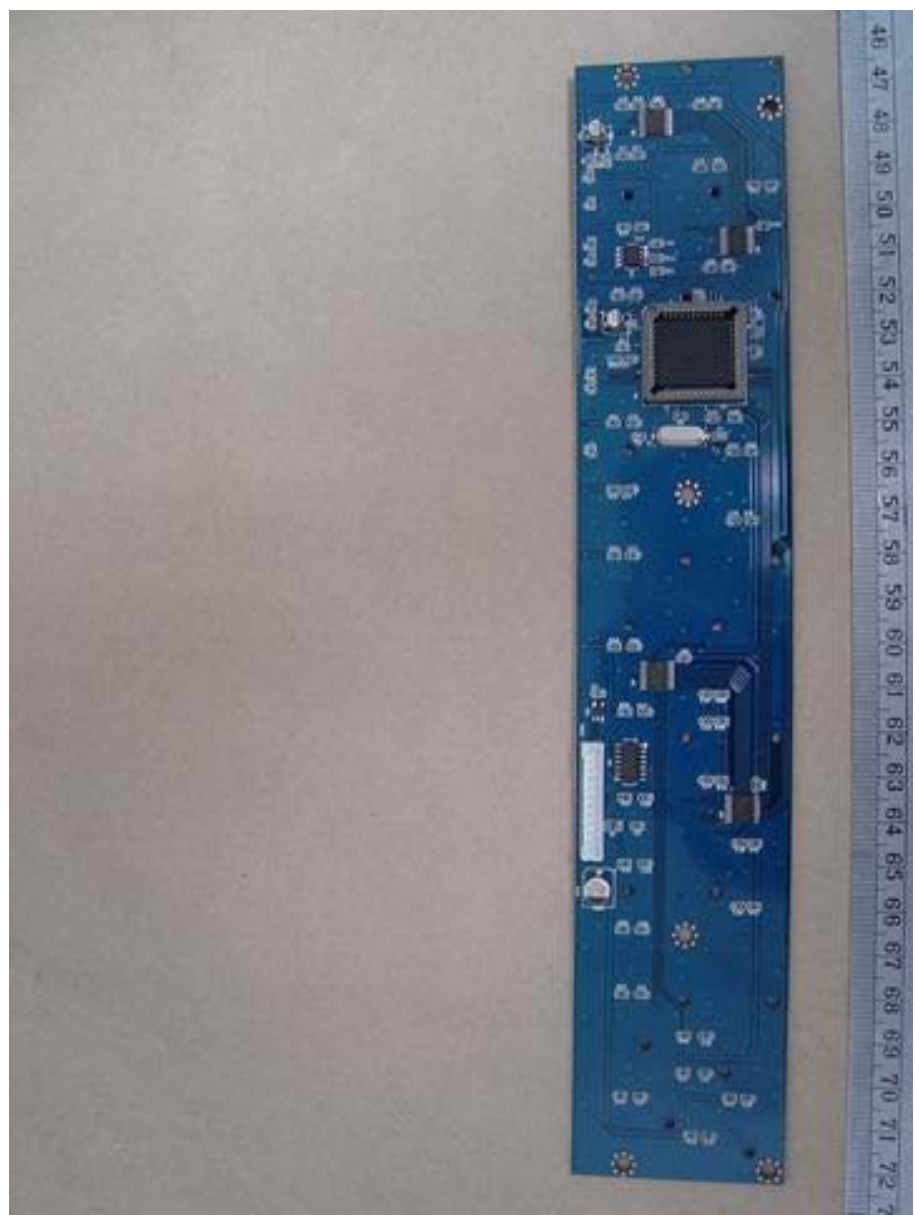
Registration number: W6M20612-7649-P-15B



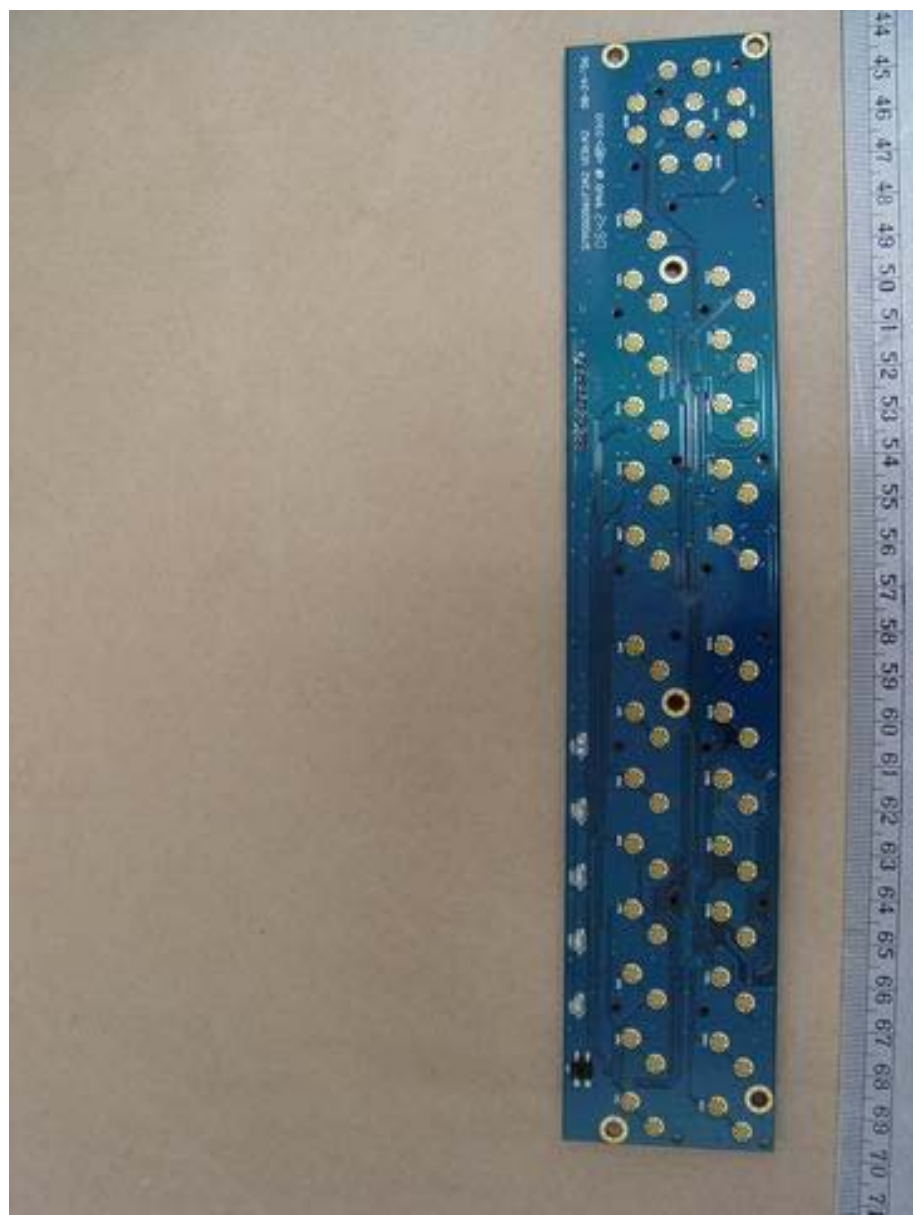
Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B



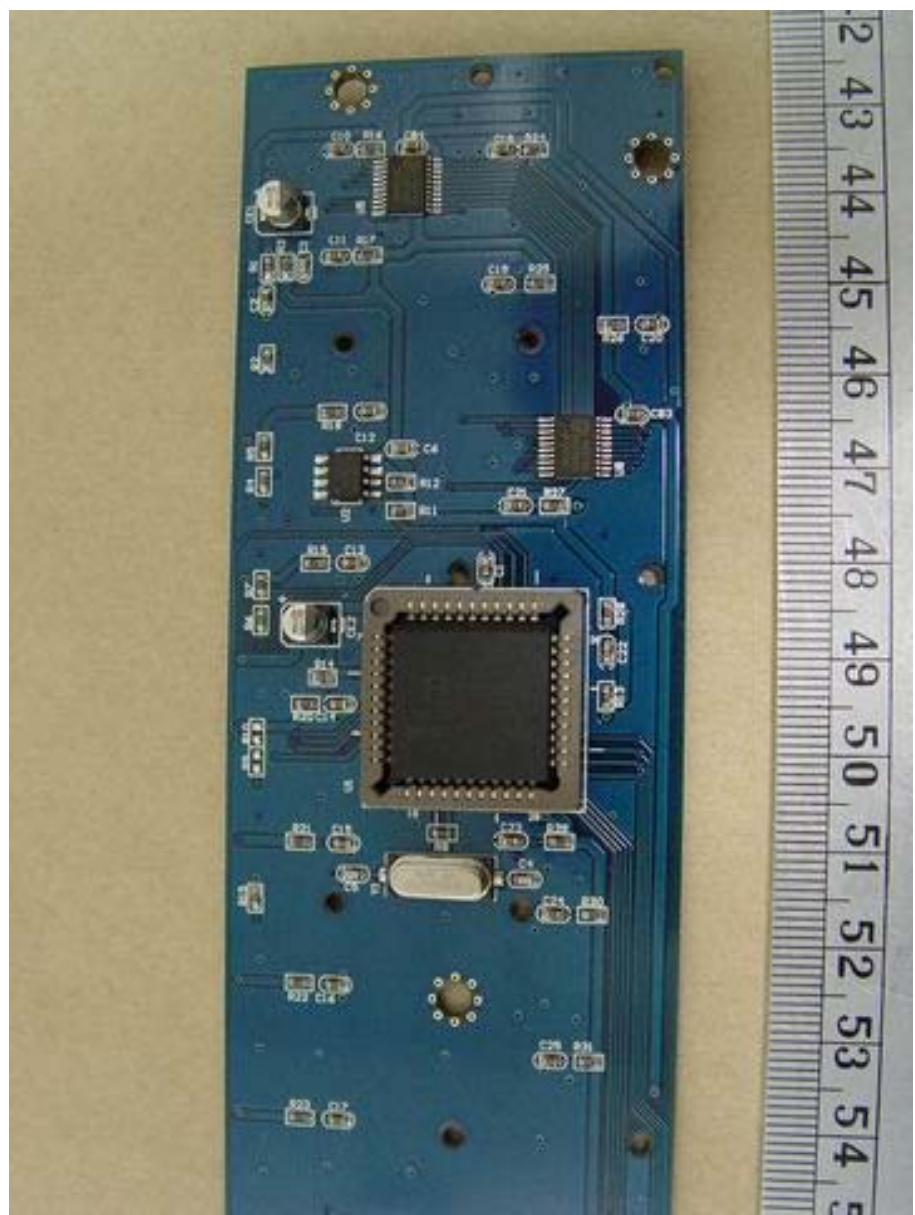
Registration number: W6M20612-7649-P-15B



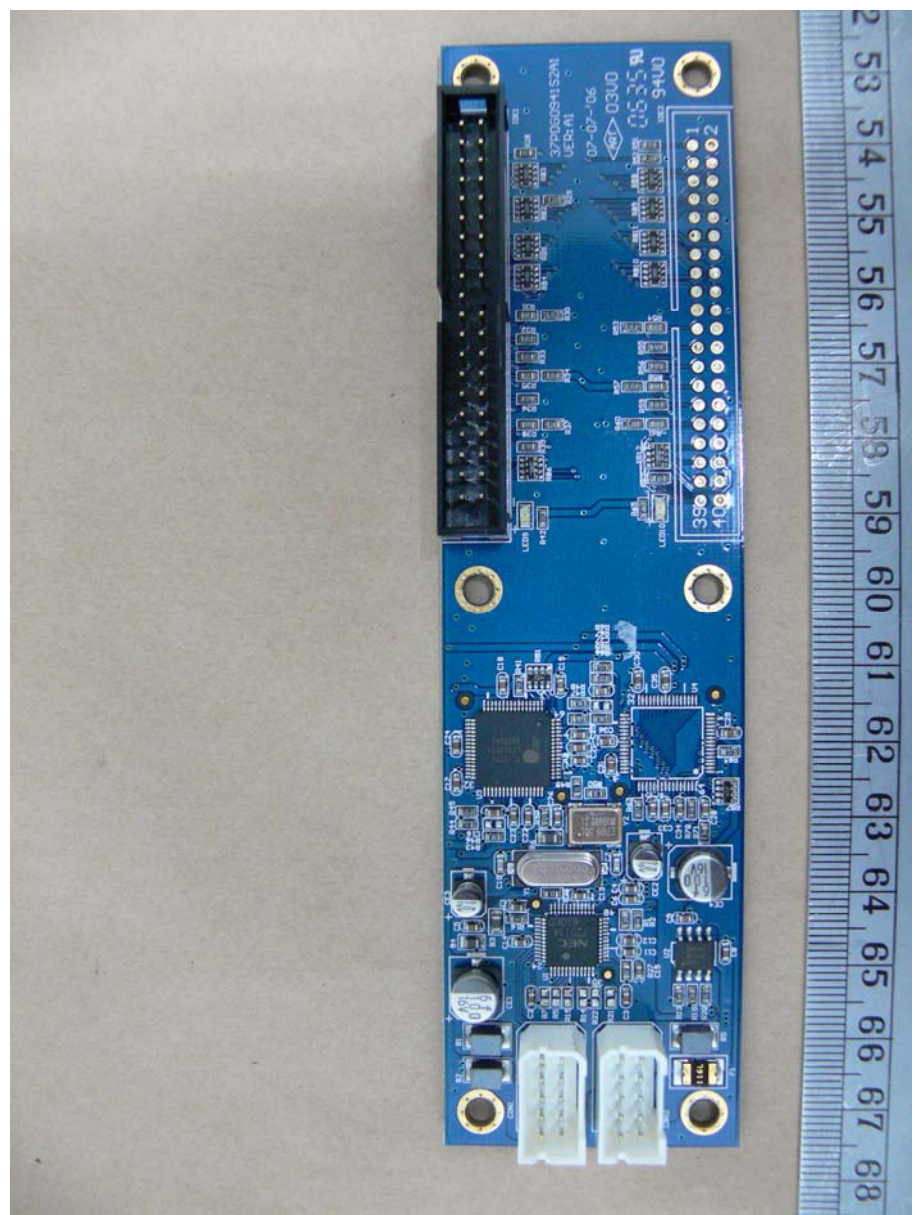
Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B



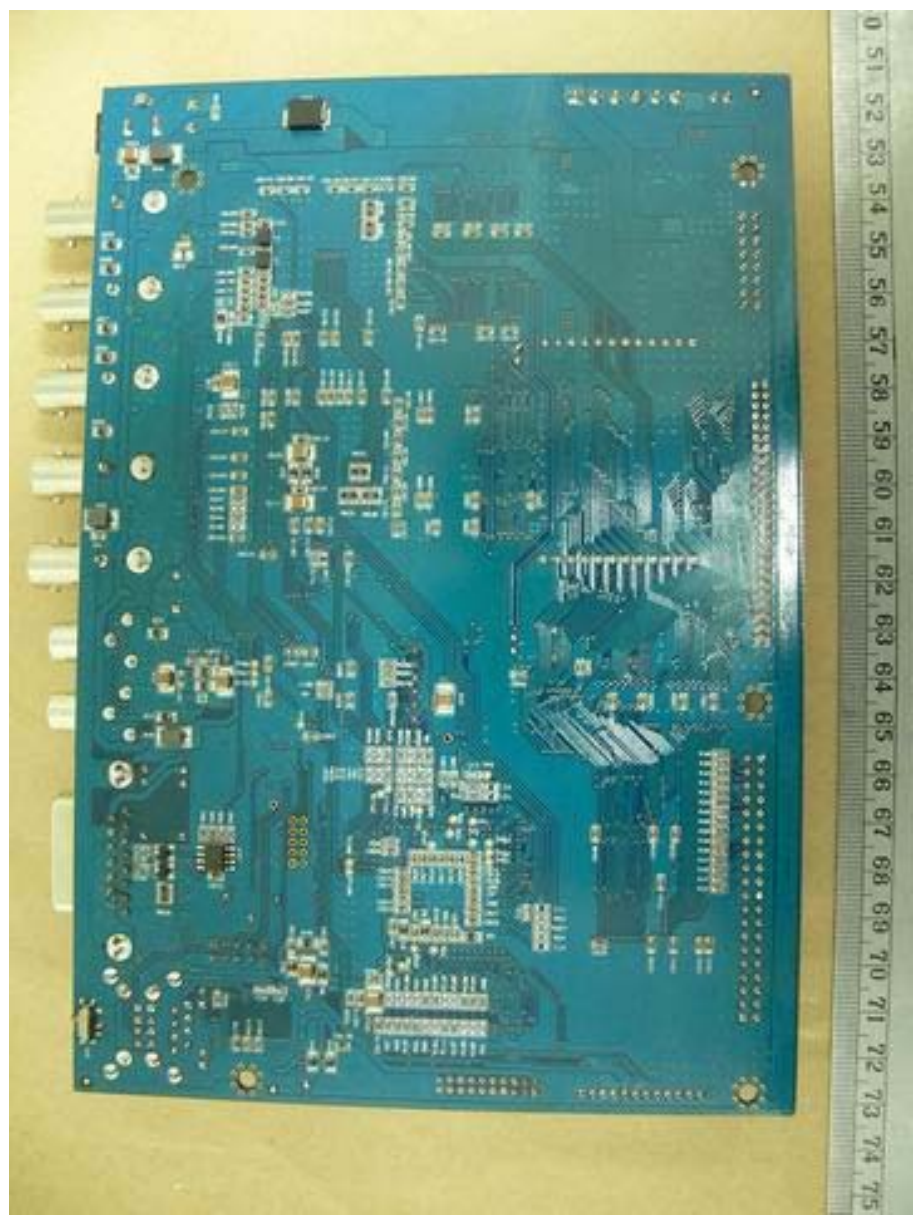
Registration number: W6M20612-7649-P-15B



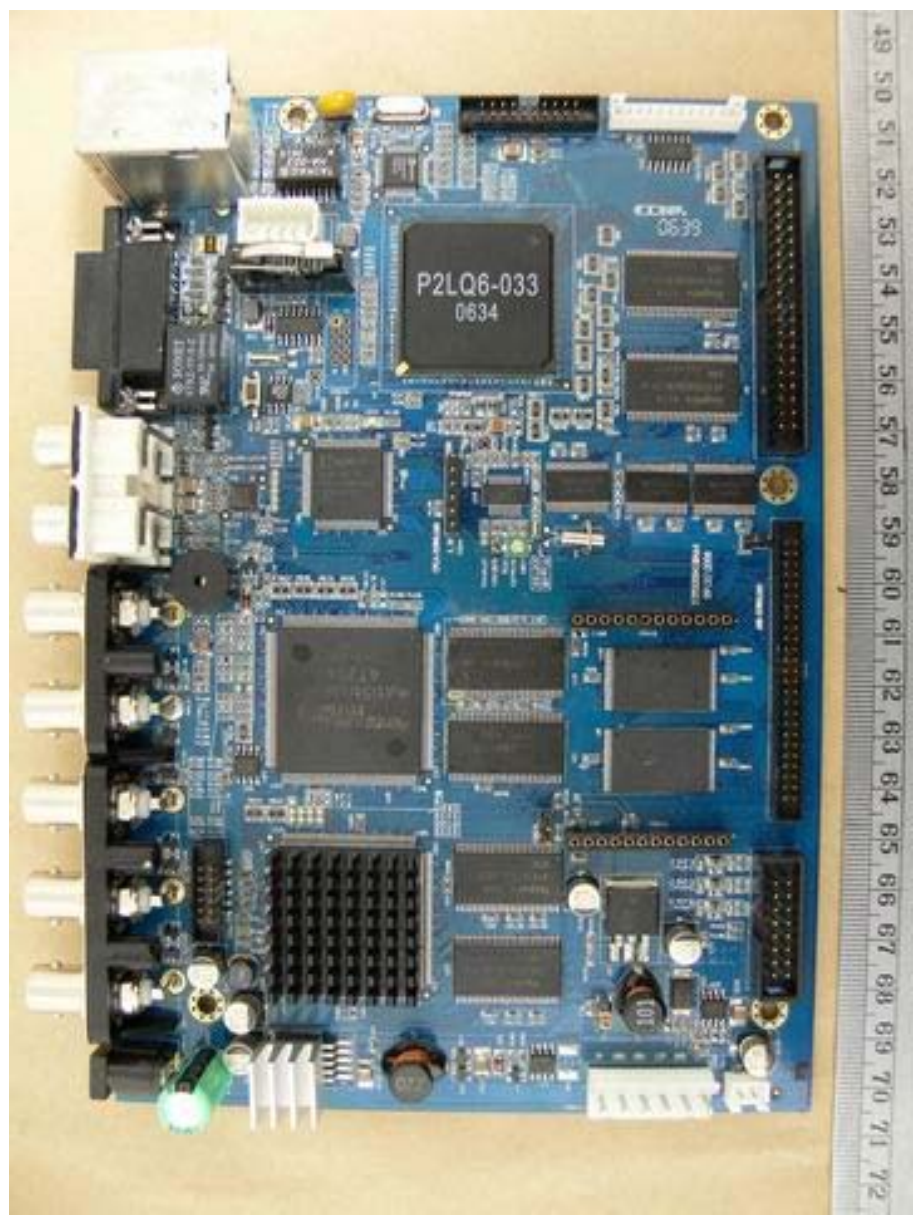
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Registration number: W6M20612-7649-P-15B



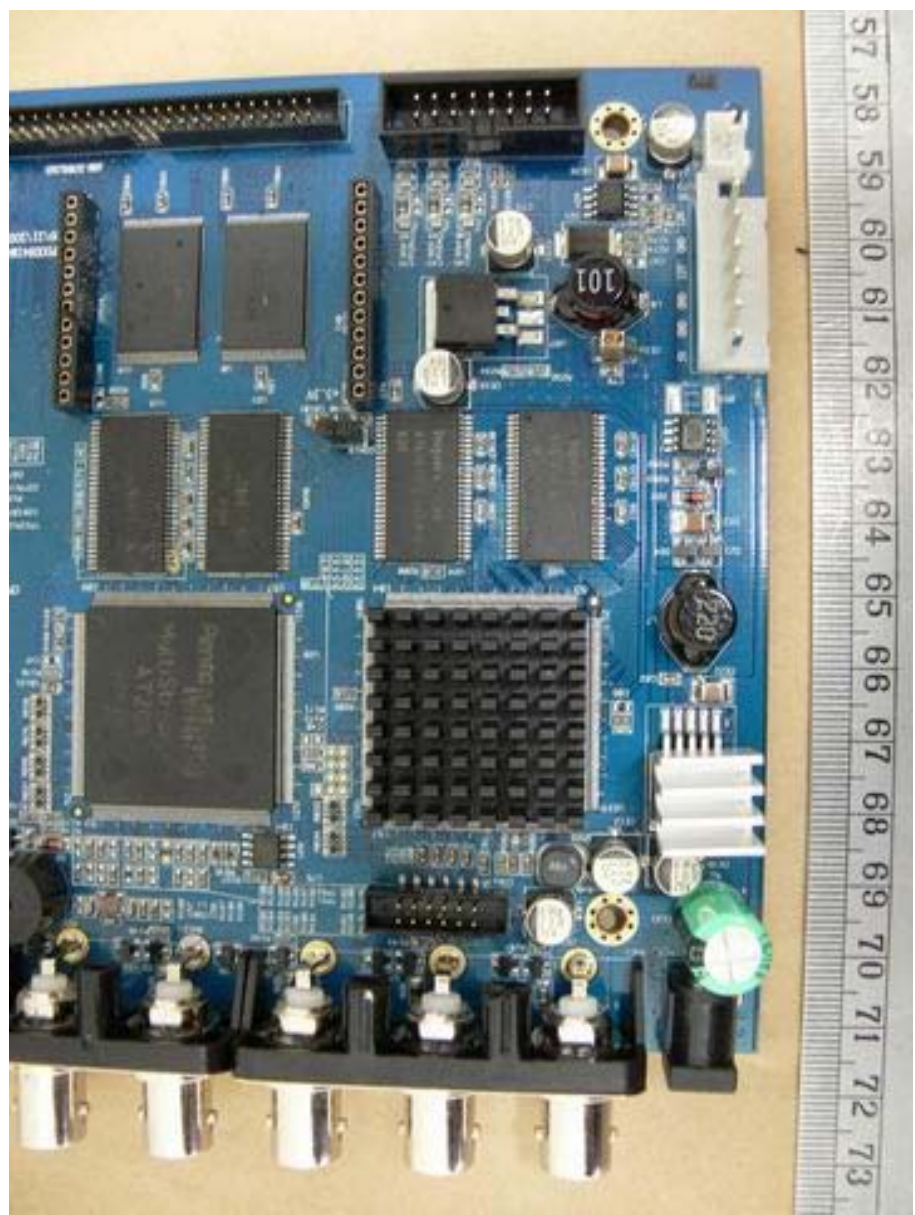
Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B



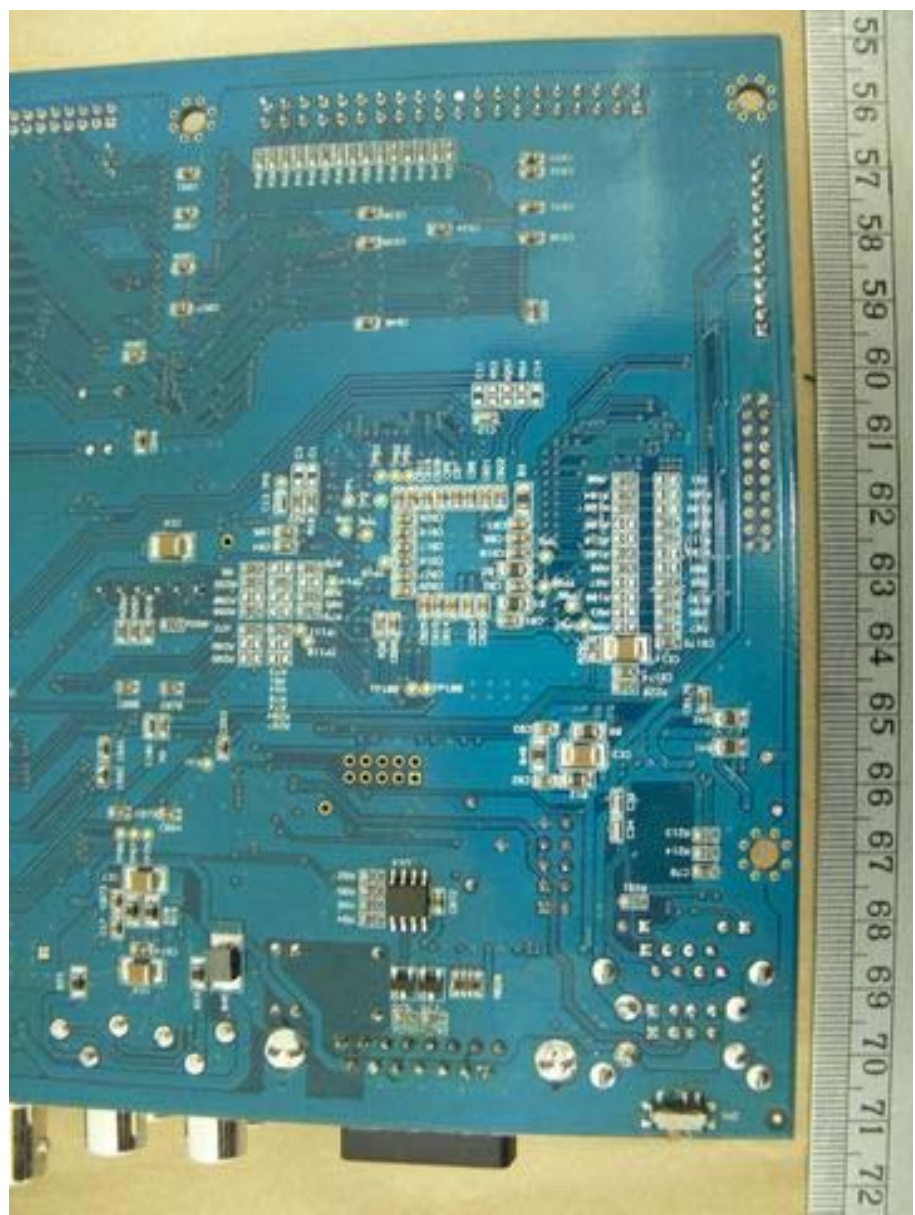
Registration number: W6M20612-7649-P-15B



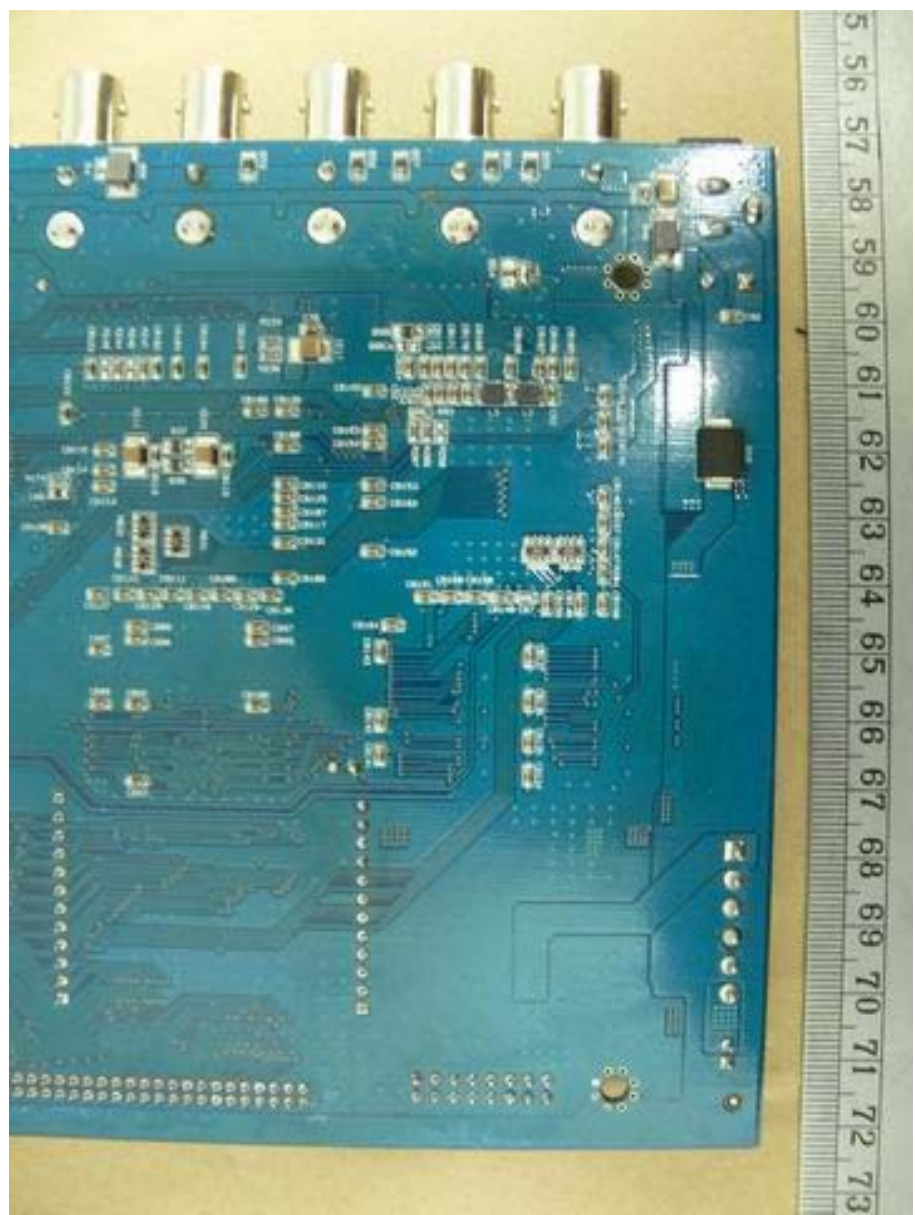
Registration number: W6M20612-7649-P-15B



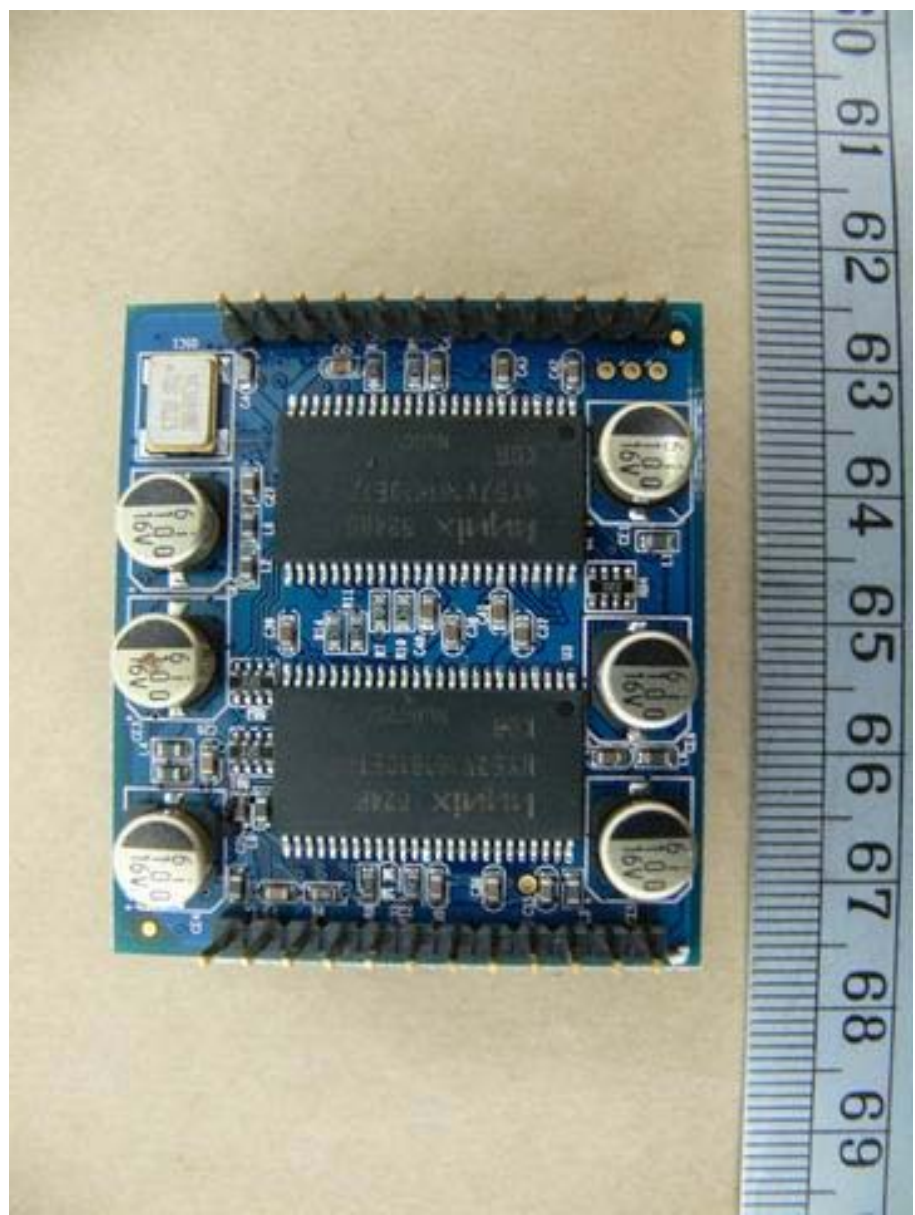
Registration number: W6M20612-7649-P-15B



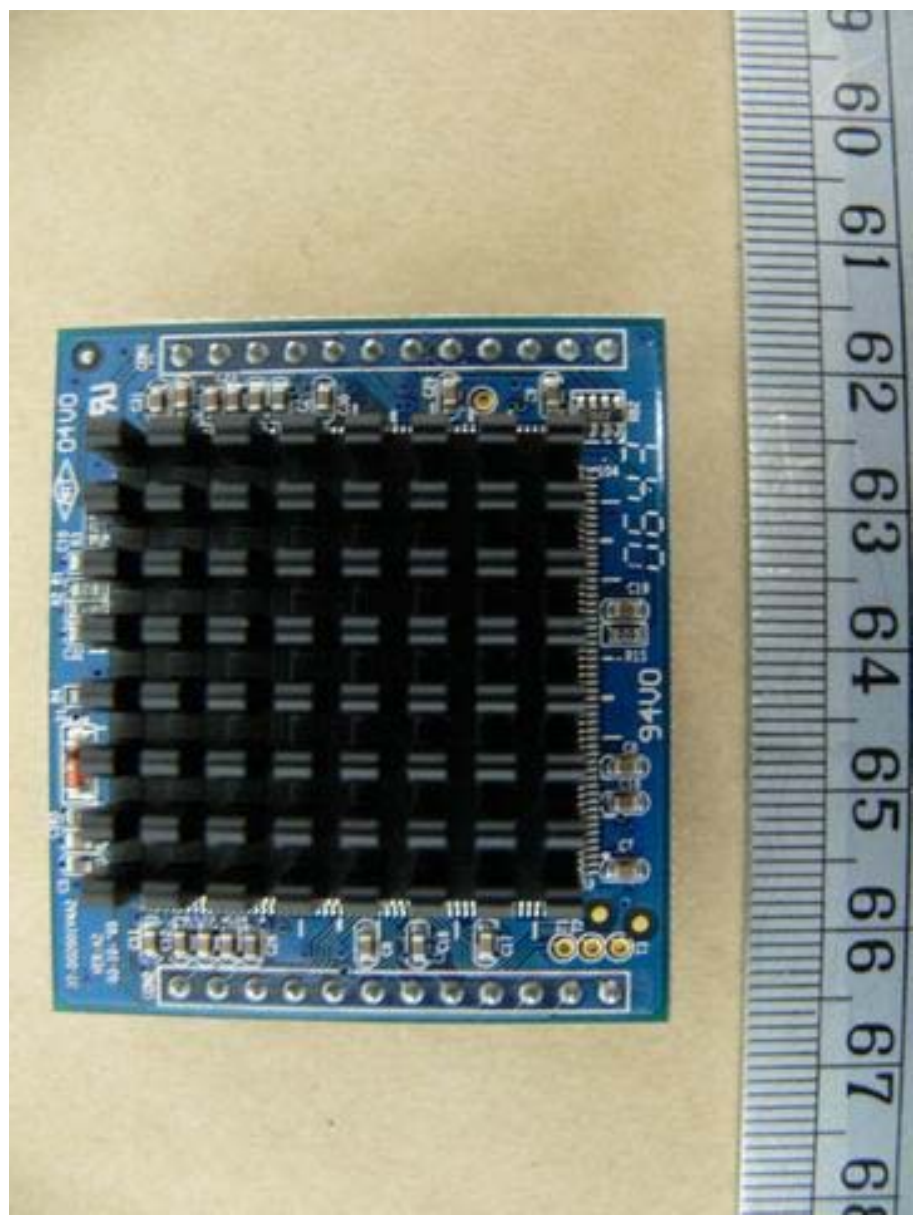
Registration number: W6M20612-7649-P-15B



Registration number: W6M20612-7649-P-15B

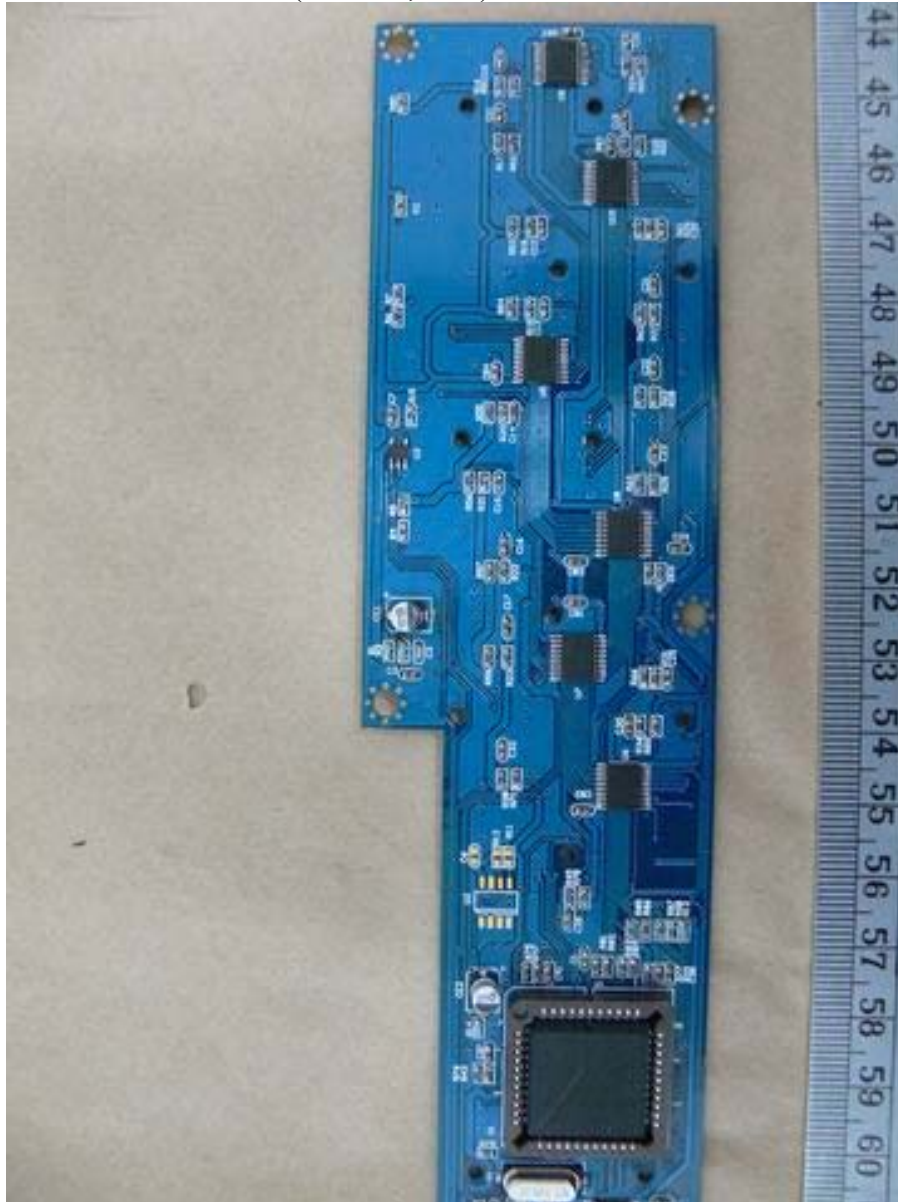


Registration number: W6M20612-7649-P-15B

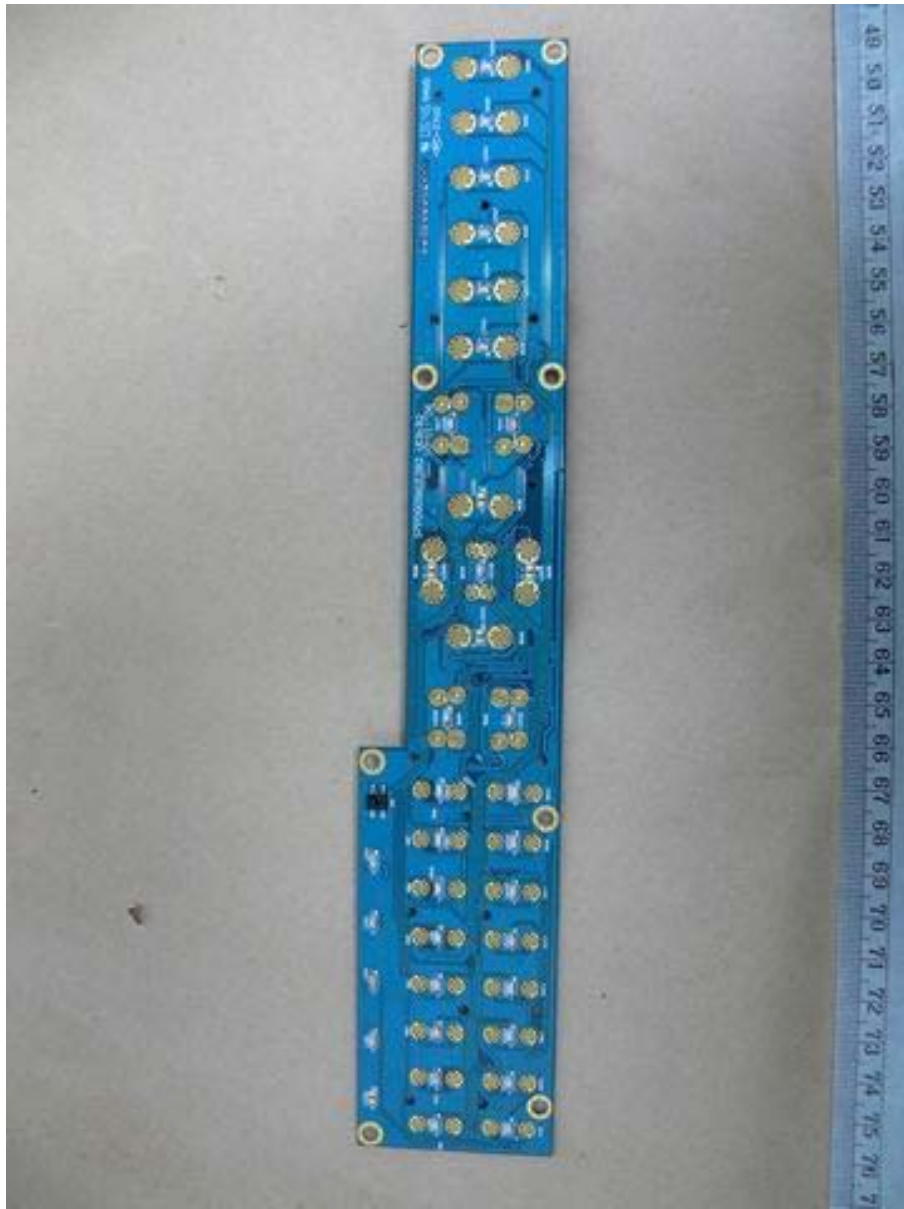


Registration number: W6M20612-7649-P-15B

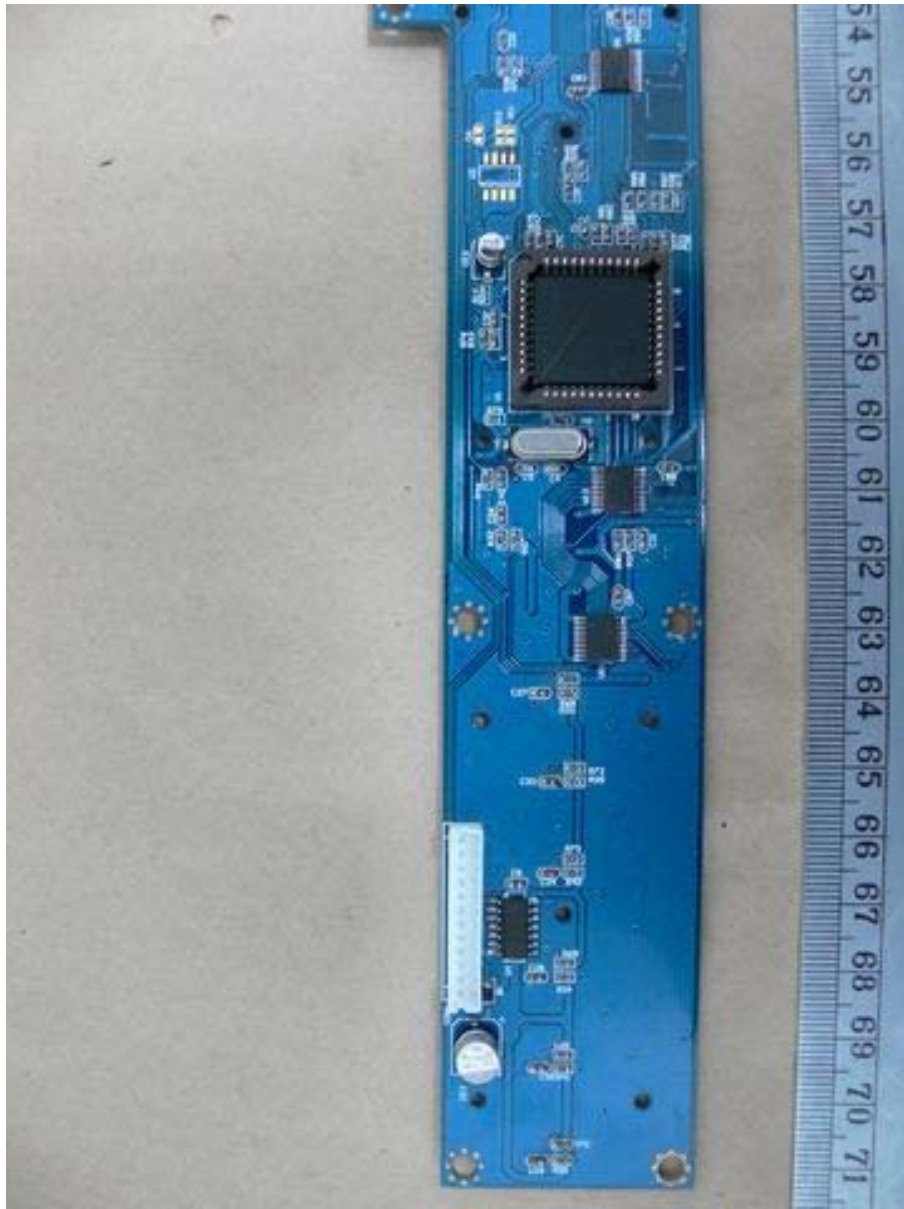
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SPECO SERIES DG094 XXXXXXXX (X→ 0~9, A~Z)



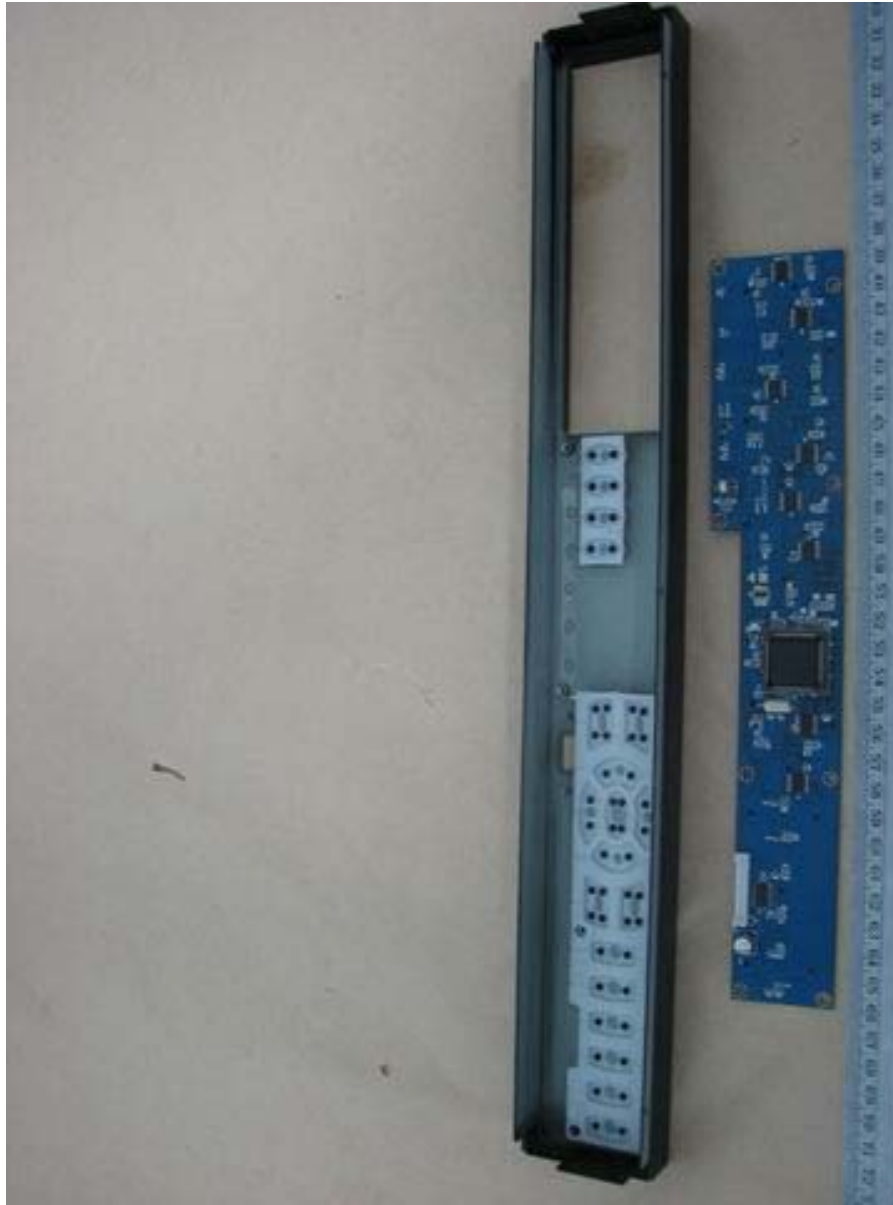
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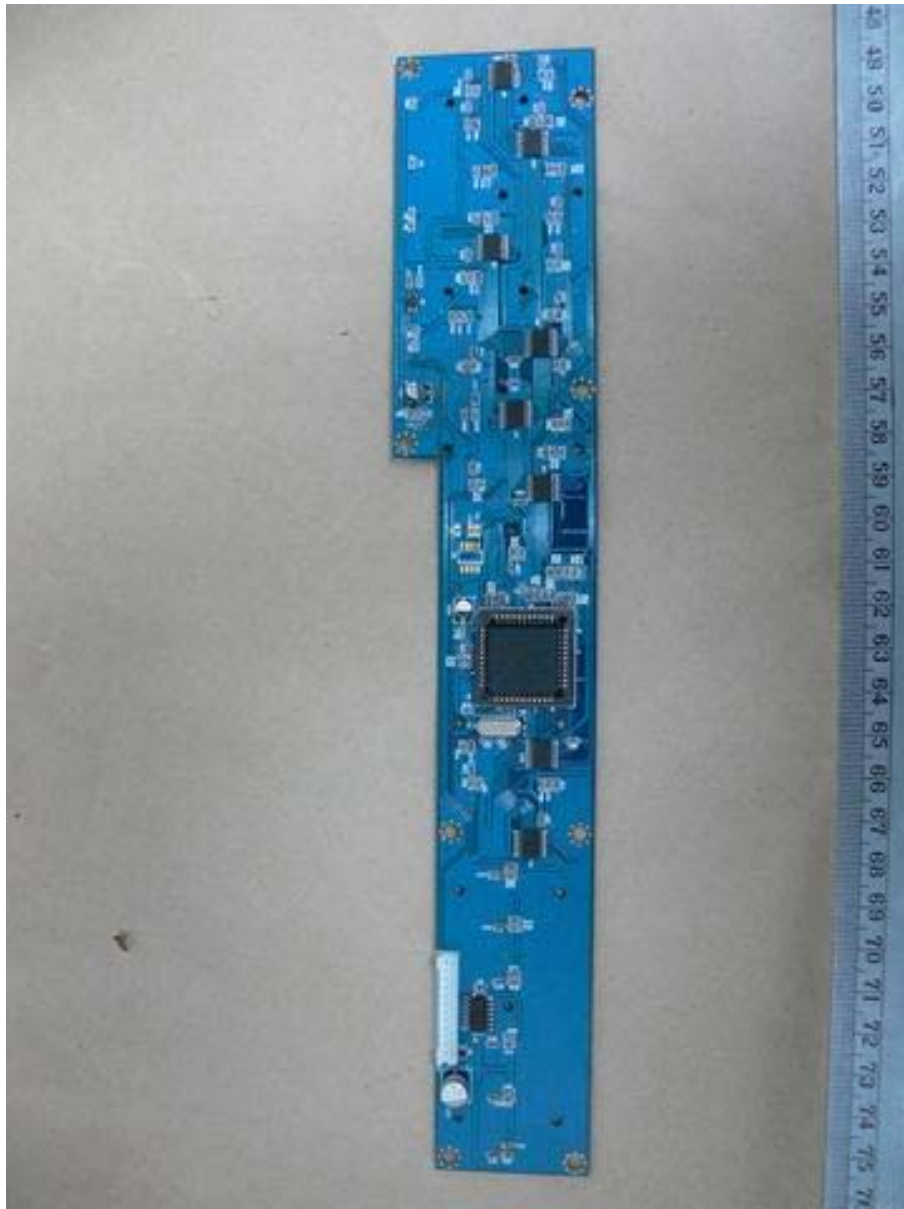
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Set Up Photos

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CD-ROM Mode



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HD Mode



Registration number: W6M20612-7649-P-15B

