

**Prüfbericht - Nr.:** 16020992 001  
*Test Report no.:*

Seite 1 von 20  
Page 1 of 20

**Auftraggeber:** TRUPHATEK INTERNATIONAL LTD.  
*Client:* Haomanut st.9,P.O. Box 8051  
Netanya  
425040  
Israel

**Gegenstand der Prüfung:** LCD Color Monitor with Dedicated Camera Module  
*Test item:*

**Bezeichnung:** PCD4150 **FCC ID:** XRU-4150  
*Identification:* **FCC ID:**

**Wareneingangs-Nr.:** 173049273 **Eingangsdatum:** 30.Nov.2009  
*Receipt no.:* *Date of receipt:*

**Prüfört:** TÜV Rheinland (Guangdong) Ltd. EMC **Listed test laboratory**  
*Testing location:* **Laboratory** according to FCC rules  
Guangzhou Auto Market, Yuan Gang Section of section 2.948 for  
Guangshan Road, Guangzhou 510650 measuring devices under  
P. R. China Parts 15

**Prüfgrundlage:** ANSI C63.4: 2003  
*Test specification:* **FCC Part 15: 2008-07-10**  
**Conduct Emissions with limits described at Subpart B section 15.107**  
**Radiated Emissions with limits described at Subpart B section 15.109**

**Prüfergebnis:** Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n).  
*Test result:* *The test item passed the test specification(s).*

**Prüflaboratorium:** TÜV Rheinland (Guangdong) Ltd.  
*Testing laboratory:*

**geprüft / tested by:**

**kontrolliert / reviewed by:**

01.Apr.2010 Cherry He  
Project Manager

02.Apr.2010 Liangdong Xie  
Project Manager

**Datum** **Name/ Stellung** **Unterschrift**  
*Date* *Name/Position* *Signature*

**Datum** **Name/ Stellung** **Unterschrift**  
*Date* *Name/Position* *Signature*

**Sonstiges/ Other aspects:**

**Abkürzungen:** P(ass) = entspricht Prüfgrundlage  
F(ail) = entspricht nicht Prüfgrundlage  
N/A = nicht anwendbar  
N/T = nicht getestet

**Abbreviations:** P(ass) = passed  
F(ail) = failed  
N/A = not applicable  
N/T = not tested

**Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.**

*This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.*

**Prüfbericht - Nr.: 16020992 001**  
*Test Report no.:*

**Seite 2 von 20**  
*Page 2 of 20*

## TEST SUMMARY

### **5.1 CONDUCTED EMISSION FOR FCC PART 15 PER SECTION 15.107(A)**

*RESULT: Pass*

### **5.2 RADIATED EMISSION FOR FCC PART 15 PER SECTION 15.109(A)**

*RESULT: Pass*

## Contents

1	GENERAL REMARKS .....	4
1.1	COMPLEMENTARY MATERIALS .....	4
2	TEST SITES .....	4
2.1	TEST FACILITIES.....	4
2.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS.....	5
2.3	TRACE ABILITY .....	5
2.4	CALIBRATION.....	6
2.5	MEASUREMENT UNCERTAINTY .....	6
2.6	LOCATION OF ORIGINAL DATA .....	6
2.7	STATUS OF FACILITY USED FOR TESTING .....	6
3	GENERAL PRODUCT INFORMATION .....	7
3.1	PRODUCT FUNCTION AND INTENDED USE.....	7
3.2	RATINGS AND SYSTEM DETAILS.....	7
3.3	INDEPENDENT OPERATION MODES.....	8
3.4	SUBMITTED DOCUMENTS .....	8
4	TEST SET-UP AND OPERATION MODE.....	9
4.1	PRINCIPLE OF CONFIGURATION SELECTION .....	9
4.2	TEST OPERATION AND TEST SOFTWARE .....	9
4.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT.....	9
4.4	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE .....	9
4.5	TEST SET-UP .....	10
5	TEST RESULTS EMISSION .....	12
5.1	CONDUCTED EMISSION FOR FCC PART 15 PER SECTION 15.107(A).....	12
5.2	RADIATED EMISSION FOR FCC PART 15 PER SECTION 15.109(A) .....	15
6	PHOTOGRAPHS OF THE TEST SET-UP .....	18
7	LIST OF TABLES .....	20
8	LIST OF PHOTOGRAPHS .....	20

**Prüfbericht - Nr.: 16020992 001**  
*Test Report no.:*

**Seite 4 von 20**  
*Page 4 of 20*

## **1 General Remarks**

### **1.1 Complementary Materials**

None

## **2 Test Sites**

### **2.1 Test Facilities**

**TÜV Rheinland (Guangdong) Ltd. EMC Laboratory**

Guangzhou Auto Market, Yuan Gang Section of Guangshan Road  
Guangzhou 510650  
P. R. China

Prüfbericht - Nr.: **16020992 001**  
Test Report no.:

Seite 5 von 20  
Page 5 of 20

## 2.2 List of Test and Measurement Instruments

**Table 1: List of Test and Measurement Equipment**

Kind of Equipment	Type	Manufacturer	S/N	Calibrated until
EMI Test Receiver	ESCI-3	Rohde & Schwarz	100216	26.11.2010
Bi-log Antenna	VULB9168	Schwarzbeck	210	08.05.2010
Notch Filter	BRM50702	Micro-Tronics	023	14.03.2010
3m Semi-anechoic chamber	---	Albatross Projects	---	16.04.2010
EMI Test Receiver	ESCS30	Rohde & Schwarz	100316	16.04.2010
Noise generator	DM8899	DM	607014	17.07.2010

## 2.3 Trace ability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

## 2.5 Measurement Uncertainty

The estimated combined standard uncertainty for conducted emissions measurements is  $\pm 2.68$  dB.  
The estimated combined standard uncertainty for radiated emissions measurements is  $\pm 4.94$  dB.

## 2.6 Location of original data

The original copies of all test data taken during actual testing were attached on Page 13-16, 18-21 of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Guangzhou) file for certification follow-up purposes.

## 2.7 Status of facility used for testing

TÜV Rheinland (Guangdong) Ltd. EMC Laboratory; Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou 510650, P. R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements, the register no. 833845.

Prüfbericht - Nr.: 16020992 001  
Test Report no.:

Seite 7 von 20  
Page 7 of 20

### 3 General Product Information

#### Brief description of the test sample:

The submitted sample PCD4150 is a LCD color monitor with dedicated camera module and USB port which can be connected to a computer. It has a internal rechargeable lithium-Ion battery with DC input.

#### 3.1 Product Function and Intended Use

For details, refer to Technical Documentation and the User Manual.

#### 3.2 Ratings and System Details

Type designation	PCD4150
Power Consumption	7 W
System input voltage	DC 12V-16.8V
Protection class	III

Refer to this report Technical Documentation for further information.

Prüfbericht - Nr.: **16020992 001**  
Test Report no.:

Seite 8 von 20  
Page 8 of 20

### 3.3 Independent Operation Modes

The basic operation modes are:

- A: On
- B: Off

### 3.4 Submitted Documents

Block Diagram  
Circuit Diagram  
PCB Layout  
External Photo  
Internal Photo  
Label and Location  
User Manual



## 4 Test Set-up and Operation Mode

### 4.1 Principle of Configuration Selection

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

### 4.2 Test Operation and Test Software

Refer to Test set-up in chapter 5.

### 4.3 Special Accessories and Auxiliary Equipment

AC-DC Adaptor

Input voltage: AC 100-240V

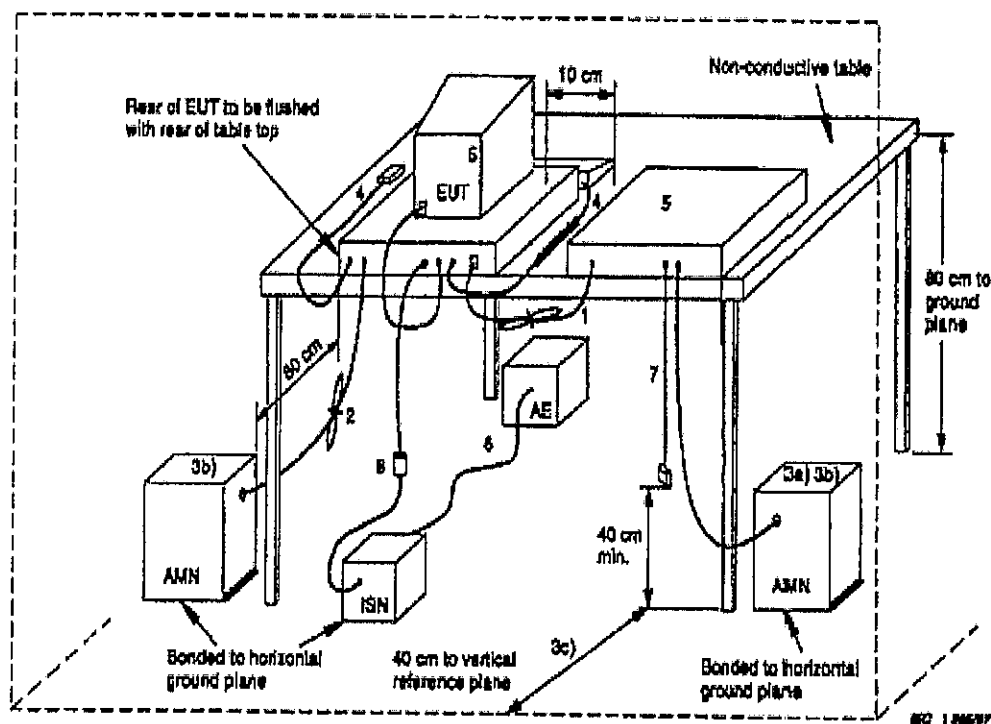
Output voltage: DC 16.8V, 700mA

### 4.4 Countermeasures to achieve EMC Compliance

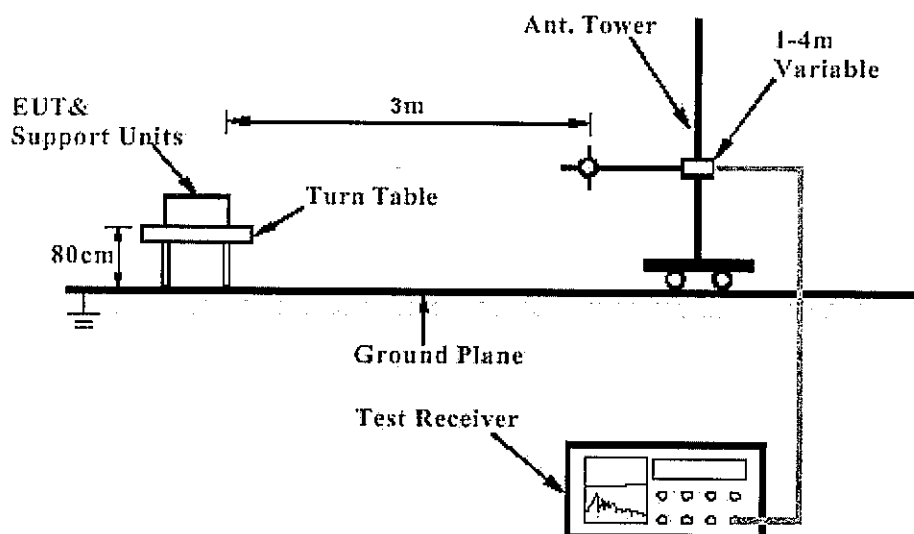
No additional countermeasures to the submitted test sample(s) were employed to achieve compliance.

## 4.5 Test set-up

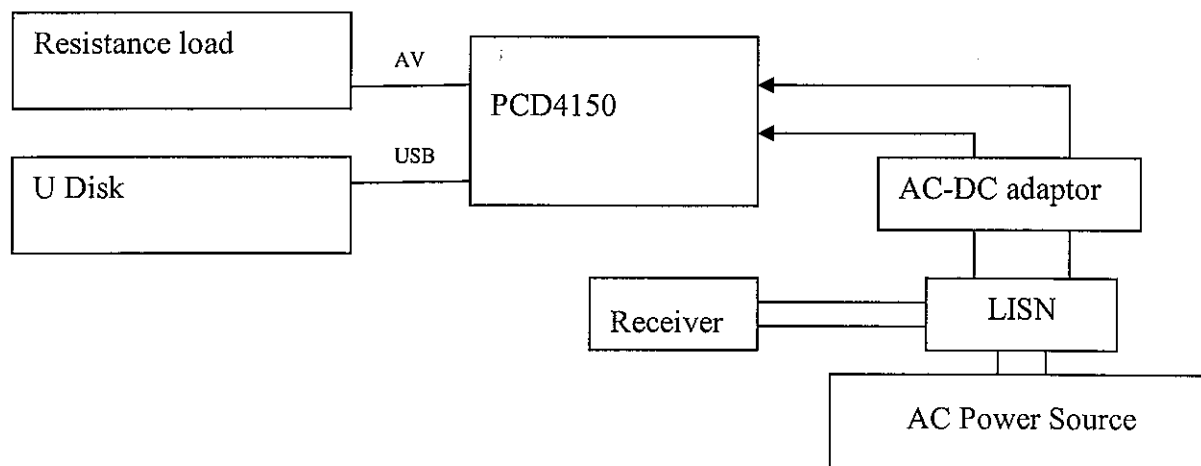
**Diagram 1 of Measurement Equipment Configuration for Testing Conducted Emission**



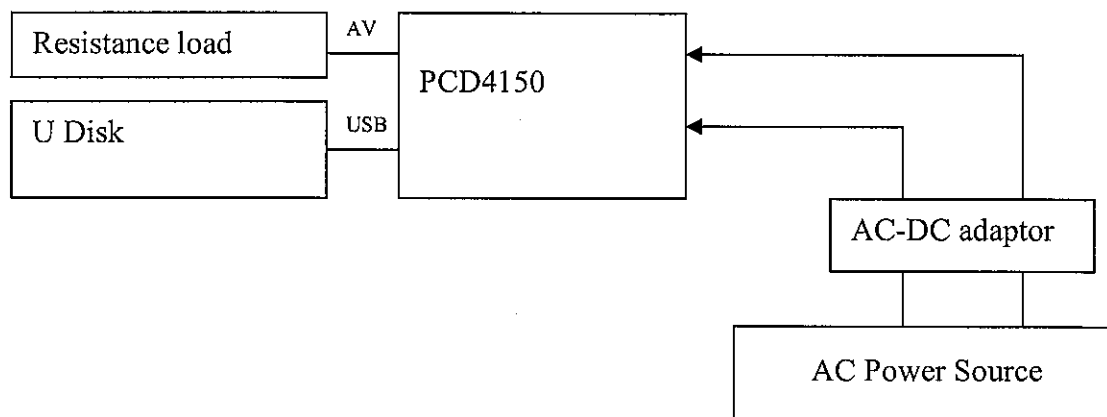
**Diagram 2 of Measurement Equipment Configuration for Testing Radiated Emission**



**Diagram 3 of Equipment Configuration for Testing Conducted Emission**



**Diagram 4 of Equipment Configuration for Testing Radiated Emission**



Prüfbericht - Nr.: 16020992 001  
Test Report no.:

Seite 12 von 20  
Page 12 of 20

## 5 Test Results EMISSION

### 5.1 Conducted Emission for FCC Part 15 Per Section 15.107(a)

RESULT:

Pass

Date of testing	:	05.Mar.2010
Test Basis	:	FCC Part 15 Per Section 15.107(a)
Test specification	:	Class B
Deviations from Standard Test procedures	:	None
Test procedure	:	Procedure specified in ANSI C63.4 were followed
Kind of test site	:	Shielded room
Operation mode	:	A: On
Temperature	:	23°C
Humidity	:	50%

#### Test procedure:

1. Place the EUT as specified in ANSI C63.4 Clause 7.2.1
2. Plug the LISN to a correct power source (pay attention to: AC/DC, voltage, frequency).
3. Connect the LISN to the power source.
4. Connect the EUT to LISN and choose N or L1 on the LISN.
5. Connect ESCS30 and LISN via a 50-ohm coaxial cable and a pulse limiter then begin exploratory measurement as specified in ANSI C63.4 Clause 7.2.3
6. Make final measurement as specified in ANSI C63.4 Clause 7.2.4

If the result of the measurement with the Quasi Peak detector is below the Average limit, the measurement with Average Detector may be omitted.

Please refer to the following graphs. Disturbances are far below the limit.

Prüfbericht - Nr.: 16020992 001  
Test Report no.:

Seite 13 von 20  
Page 13 of 20

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## EMC Test Record (EMISSION)

### Test Information

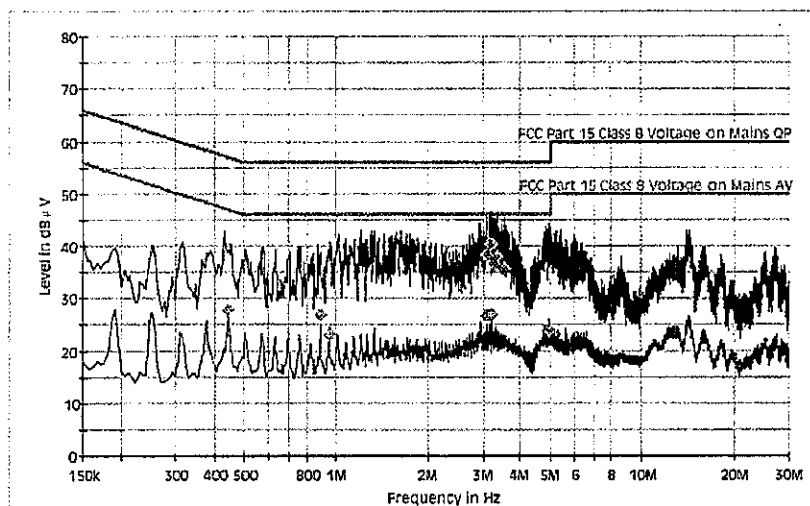
Manufacturer: Truphatek International Ltd.  
Test Item: Truview PCD Monitor  
Identification: ~~4140 UJH5/BAU~~ PCD 4150  
Test Standard: FCC Part 15  
Test Detail: Conducted Emission  
Operation Mode: A  
Climate Condition: 23°C; 50 %RH; 101 kPa.  
Test Voltage/ Freq.: AC 120 V/ 60Hz  
Port / Line: AC Mains/L1&N  
Receipt No.: 173049273  
Report No.: 16020992 001  
Result: Pass  
Comment: /



Sign-off Test Data

Hardware Setup: 1phase LISN ESH3-Z5 to ESCS30  
Level Unit: dB  $\mu$  V

Subrange	Detectors	IF Bandwidth	Step Size	Meas. Time	Receiver
150kHz - 30MHz	Peak; Average	9kHz	4.5kHz	10ms	ESCS 30



2010-3-5, 15:48:20

Tested by:



Reviewed by:



Prüfbericht - Nr.: 16020992 001  
Test Report no.:

Seite 14 von 20  
Page 14 of 20

TUV Rheinland (Guangdong) Ltd.

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### Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line
3.079500	38.3	1000.000	9.000	L1
3.147000	40.3	1000.000	9.000	L1
3.210000	40.3	1000.000	9.000	L1
3.282000	36.5	1000.000	9.000	L1
3.331500	38.1	1000.000	9.000	L1
3.534000	35.6	1000.000	9.000	L1

(continuation of the "Final Measurement Detector 1" table from column 5...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)	Comment
3.079500	10.2	17.7	56.0	
3.147000	10.2	15.7	56.0	
3.210000	10.2	15.7	56.0	
3.282000	10.2	19.5	56.0	
3.331500	10.2	17.9	56.0	
3.534000	10.3	20.4	56.0	

### Final Measurement Detector 2

Frequency (MHz)	Average (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line
0.442500	27.6	1000.000	9.000	N
0.883500	26.8	1000.000	9.000	N
0.946500	23.0	1000.000	9.000	N
3.088500	26.6	1000.000	9.000	L1
3.210000	26.9	1000.000	9.000	L1
4.983000	23.9	1000.000	9.000	L1

(continuation of the "Final Measurement Detector 2" table from column 5...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)	Comment
0.442500	9.9	19.4	47.0	
0.883500	10.1	19.2	46.0	
0.946500	10.1	23.0	46.0	
3.088500	10.2	19.4	46.0	
3.210000	10.2	19.1	46.0	
4.983000	10.3	22.1	46.0	

Sign-off Test Data

2010-3-5, 15:48:20

Tested by:



Reviewed by:



Prüfbericht - Nr.: 16020992 001  
Test Report no.:

Seite 15 von 20  
Page 15 of 20

## 5.2 Radiated Emission for FCC Part 15 Per Section 15.109(a)

### RESULT:

Pass

Date of testing	:	05.Mar.2010
Test Basis	:	FCC Part 15 Per Section 15.109(a)
Test specification	:	Class B
Deviations from Standard Test procedures	:	None
Test procedure	:	Procedure specified in ANSI C63.4 were followed
Kind of test site	:	3m Semi-anechoic chamber
Operation mode	:	A: On
Temperature	:	23°C
Humidity	:	50%

### Test procedure:

1. The EUT was turned on and placed on the top of a rotatable table 0.8 meters above the ground with 3-orthogonal XYZ direction and be kept close enough to the measurement receiving antenna (especially for the measurement frequency range above 1 GHz). The table was then rotated 360 degrees to detect the suspected emission frequency points. The position of the worst radiation case with both horizontal and vertical receiving antenna polarization was then recorded together with the suspected emission frequency points above-mentioned.

2. The EUT was then set 3 meters away from the receiving antenna, which was mounted on a variable-height antenna tower.

3. For each suspected emission frequency point recorded in step 1, the EUT was arranged to its worst case that the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to read the maximum emission.

The final measurement for frequencies below 1000MHz is performed with Quasi Peak detector; the final measurement for frequencies above 1000MHz is performed with Average and Peak detector.

The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz at frequency below 1GHz.

The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz at frequency above 1GHz.

Please refer to the following graphs. Disturbances are far below the limit.

Prüfbericht - Nr.: 16020992 001  
Test Report no.:

Seite 16 von 20  
Page 16 of 20

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## EMC Test Record (EMISSION)

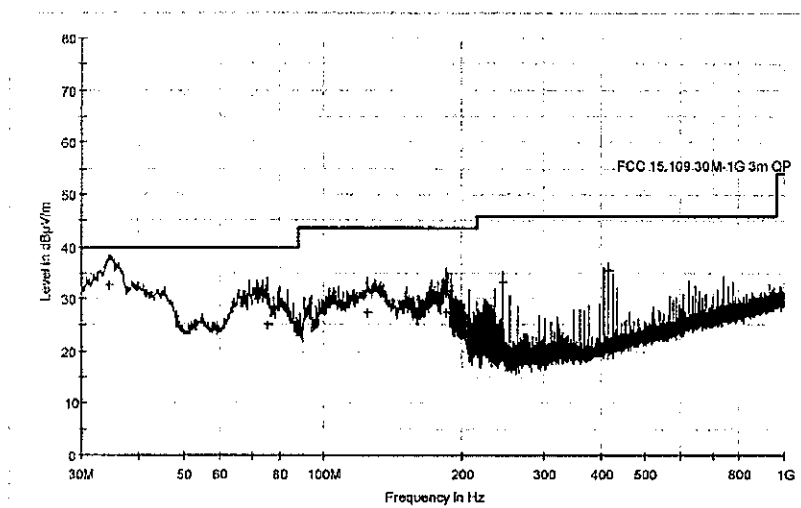
### Test Information

Manufacturer: Truphatek International Ltd.  
Test Item: Truview PCD Monitor  
Identification: ~~4440 UNIE/BAU~~ PCD 4150  
Test Standard: FCC Part 15B  
Test Detail: RE  
Operation Mode: A  
Climate Condition: 23 °C; 50 %RH; 101 kPa.  
Test Voltage / Freq.: AC 120V / 60Hz  
Receipt No.: 173049273  
Report No.: 16020992 001  
Result: Pass  
Comment: Vertical

Sign-off Test Data

### Subrange 1

Frequency Range: 30MHz - 1GHz  
Receiver: TUV ESCI 3  
Transducer: TUV SAC UVLB 9168 / TUV ESCI3 -TUV SAC UVLB 9168



### Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarity
34.500000	32.6	14.0	7.4	40.0	V
75.400000	25.2	11.0	14.8	40.0	V
124.200000	27.4	13.8	16.1	43.5	V
185.000000	27.5	12.8	16.0	43.5	V
245.900000	33.3	13.5	12.7	46.0	V
416.150000	35.5	17.8	10.5	46.0	V

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Tested by:



Reviewed by:





Prüfbericht - Nr.: 16020992 001  
Test Report no.:

Seite 17 von 20  
Page 17 of 20

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## EMC Test Record (EMISSION)

### Test Information

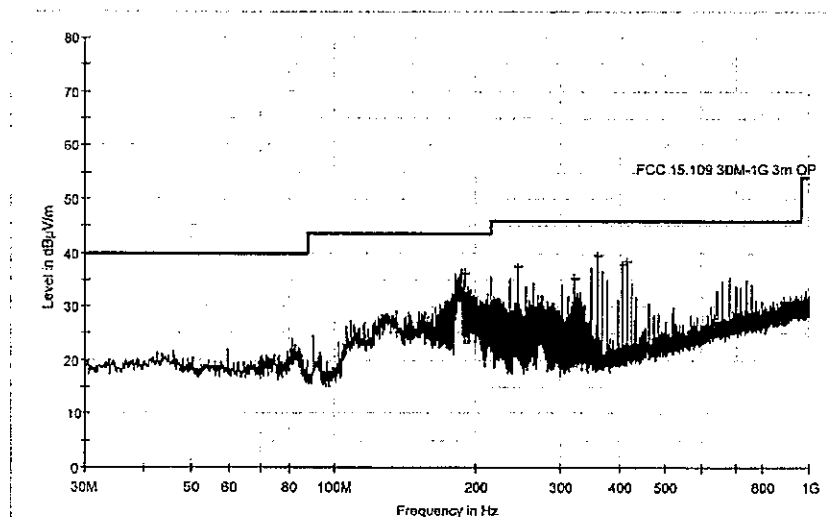
Manufacturer: Truphatek International Ltd.  
Test Item: Truview PCD Monitor  
Identification: ~~4140-UW/E/BAU~~ pcd4150  
Test Standard: FCC Part 15B  
Test Detail: RE  
Operation Mode: A  
Climate Condition: 23 °C; 50 %RH; 101 kPa.  
Test Voltage / Freq.: AC 120V / 60Hz  
Receipt No.: 173049273  
Report No.: 16020992 001  
Result: Pass  
Comment: Horizontal

Check

Sign-off Test Data

#### Subrange 1

Frequency Range: 30MHz - 1GHz  
Receiver: TUV ESCI 3  
Transducer: TUV SAC UVLB 9168 / TUV ESCI3-TUV SAC UVLB 9168



### Limit and Margin QP

Frequency (MHz)	QuasiPeak (dB µV/m)	Corr. (dB)	Margin (dB)	Limit (dB µV/m)	Polarity
189.000000	36.0	12.3	7.5	43.5	H
245.900000	37.5	13.5	8.5	46.0	H
321.800000	35.2	15.7	10.8	46.0	H
359.400000	39.7	16.5	6.3	46.0	H
406.700000	37.9	17.5	8.1	46.0	H
416.150000	38.5	17.8	7.5	46.0	H

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## 6 Photographs of the Test Set-Up

**Photograph 1: Set-up for Conducted Emission**



Prüfbericht - Nr.: **16020992 001**  
Test Report no.:

Seite 19 von 20  
Page 19 of 20

**Photograph 2: Set-up for Radiated Emission**



## 7 List of Tables

Table 1: List of Test and Measurement Equipment .....	5
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## 8 List of Photographs

Photograph 1: Set-up for Conducted Emission .....	18
Photograph 2: Set-up for Radiated Emission .....	19