REPORT ON

Limited FCC CFR 47: Parts 15 C Testing in support of an Application for Grant of Equipment Authorisation of a Promethean ActivSlate

FCC ID: QAM004

Report No OR612169/03 Issue 2

July 2004







BABT, Segensworth Road, Fareham, Hampshire, PO15 5RH, United Kingdom Tel: +44 (0)1329 443300

Website: www.tuvps.co.uk



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support of an Application for Grant of Equipment Authorisation

of a Promethean ActivSlate

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Report No OR612169/03 Issue 2

July 2004

PREPARED FOR

Promethean Limited

TDS House

Lower Phillips Road

Blackburn BB1 5TH

PREPARED BY

J Holcombe

EMC Engineer

APPROVED BY

Jensen Adams

J J Adams

EMC Signatory

DATED

28th July 2004

DISTRIBUTION

Promethean

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ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47: Parts 15 B & C. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineers;

S Hartley

J Holcombe





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SECTION 1

REPORT SUMMARY

Limited FCC CFR 47: Part 15 Testing in support of an Application for Grant of Equipment Authorisation of a Promethean ActivSlate

Report OR612169-03 Issue 2 replaced Report OR612169-03 Issue 1. Issue 2 contains typographical corrections and additional test results.



1.1 STATUS

EQUIPMENT UNDER TEST Promethean ActivSlate

OBJECTIVE To undertake measurements to determine the Equipment

Under Test's (EUT's) compliance with the specification.

NAME AND ADDRESS OF CLIENT Promethean Limited

TDS House

Lower Phillips Road

Blackburn BB1 5TH

TYPE NUMBER PRM-RS1-01 / TDS-RS1-01

SERIAL NUMBER Unserialised

HARDWARE VERSION 525207603

DECLARED VARIANTS None

TEST SPECIFICATION / ISSUE FCC CFR 47: Part 15 C

DATE August 2002

NUMBER OF ITEMS TESTED One

SECURITY CLASSIFICATION OF EUT Commercial In Confidence

INCOMING RELEASE Declaration of Build Status

DATE 21st May 2004

DISPOSAL Held pending disposal

REFERENCE NUMBER Not Applicable DATE Not Applicable

ORDER NUMBER PE1515

DATE 15th March 2004

START OF TEST 5th March 2004

FINISH OF TEST 8th July 2004

RELATED DOCUMENTS ANSI C63.4 2001. Methods of Measurement of Radio-

Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz. FCC Public Notice document (DA 00-705 released 30

March 2000)



1.2 INTRODUCTION

The information contained within this report is intended to show limited verification of compliance of the Promethean ActivSlate to the requirements of FCC Specification Parts 15.109, 15.209 and 15.249.

Testing was carried out in support of an application for Grant of Equipment Authorisation in the name of Promethean Limited.



1.2.1 DECLARATION OF BUILD STATUS

| Manufacturer | TDS Promethear | n Ltd | |
|-------------------|-----------------|--------------------|---------------------------|
| Country of origin | United Kingdom | | |
| UK Agent | TDS Promethear | 1 | |
| Description | ACTIVSlate XR | | |
| Model No | PRM-RS1-01 / T | DS-RS1-01 | |
| Part No | PRM-RS1-01 / TI | DS-RS1-01 | |
| Serial No | Unserialised | | |
| Hardware Version | 525207603 | | |
| Build Status | 0 | | |
| Software Issue | 411-000-09 | | |
| | | | |
| | | Signature | Andrew Oakley |
| | | Date | 21 st May 2004 |
| | | D of B S Serial No | Y612169-02 |

Note: This document has been prepared to enable manufacturers with no mechanism for producing their own Declaration of Build Status, to declare the build state of the equipment submitted for test.

No responsibility will be accepted by TUV Product Service as to the accuracy of the information declared in this document by the manufacturer.

BABT Limited formally certifies that the manufacturer's declaration as reproduced in this report, is a true and accurate record of the original received from the applicant.



1.3 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out is shown below.

| Test | Spec Clause | Test Description | Result | Levels/Comments |
|------|-------------|---|--------|-----------------|
| 2.1 | 15.109 | Spurious Radiated Emissions Receive | Pass | |
| 2.2 | 15.209 | Spurious Radiated Emissions Transmit | Pass | |
| 2.3 | 15.249(a) | Maximum Peak Carrier Field Strength | Pass | Build State 1 |
| 2.4 | 15.249(e) | Spurious and Harmonic Radiated Emissions Above 1GHz | Pass | |
| 2.5 | 15.207 | Power Line Conducted Emissions | Pass | Build State 1 |



1.4 OPINIONS AND INTERPRETATIONS

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.



1.5 PRODUCT INFORMATION

1.5.1 Technical Description

The Equipment Under Test (EUT) was a Promethean ActivSlate, which offers 917MHz Short Range Device Functionality connectivity.

1.5.2 Modes of Operation

Modes of operation of the EUT during testing were as follows:

Applicable testing was carried out with the EUT transmitting at maximum power or receiving as detailed in Section 1.5.3 "Test Configuration".

1.5.3 Test Configuration

1.5.3.1 Test Configuration – Transmit.

SRD Transmitting on the following channels and frequencies;

Channel 1: 917.3MHz Channel 2: 917.8MHz

The Output Power level (controlled by application software) was set to Maximum

1.5.3.2 Test Configuration – Receive

SRD Receiving on the following channel and frequency;

Channel 1: 917.3MHz

1.6 TEST CONDITIONS

The EUT was set-up simulating a typical user installation on the Alternative Open Field Test Site identified in Appendices A and tested in accordance with the applicable specification.

For all tests, the Promethean ActivSlate was powered utilising its own internal battery.

1.7 DEVIATIONS FROM THE STANDARD

Not Applicable

1.8 MODIFICATION RECORD

Build State 1: Software updated to Version 411-000-10 to lower the carrier strength by 7 dB.



SECTION 2

TEST DETAILS

Limited FCC CFR 47: Part 15 Testing in support of an Application for Grant of Equipment Authorisation Of a Promethean ActivSlate



2.1 SPURIOUS RADIATED EMISSIONS RECEIVE

2.1.1 Specification Reference

FCC CFR 47: Part 15 Subpart B, Section 15.109

2.1.2 Equipment Under Test

Promethean ActivSlate

2.1.3 Date of Test

5th March 2004

2.1.4 Test Equipment Used

The major items of test equipment used for the above tests are identified as "Section 2.1" within the Test Equipment Used table shown in Section 3.1.

2.1.5 Test Procedure

Test Performed in accordance with ANSI C63.4.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

Using the information from the preliminary profiling of the EUT. The list of emissions was then confirmed or updated under Alternative Open Site conditions. Emission levels were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

Emissions identified within the range 30MHz – 1GHz were then formally measured using a CISPR Quasi-Peak detector.

The measurements were performed at a 3m distance unless otherwise stated.



2.1 SPURIOUS RADIATED EMISSIONS RECEIVE - continued

2.1.6 Test Results

Equipment Designation: Unintentional Radiator.

The EUT met the requirements of FCC CFR 47: Part 15 Subpart B, Section 15.109 for Spurious Radiated Emissions (30 MHz - 1 GHz).

EUT Rx on Channel 1 (917.3MHz)

No emissions were detected in Rx mode within 25dB of the limit peak.

2.1.7 Set Up Photograph



Set Up Photograph



2.2 SPURIOUS RADIATED EMISSIONS TRANSMIT

2.2.1 Specification Reference

FCC CFR 47: Part 15 Subpart C, Section 15.209

2.2.2 Equipment Under Test

Promethean ActivSlate

2.2.3 Date of Test

5th March 2004

2.2.4 Test Equipment Used

The major items of test equipment used for the above tests are identified as "Section 2.2" within the Test Equipment Used table shown in Section 3.1.

2.2.5 Test Procedure

Test Performed in accordance with ANSI C63.4.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisation's. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

Using the information from the preliminary profiling of the EUT. The list of emissions was then confirmed or updated under Alternative Open Site conditions. Emission levels were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

Emissions identified within the range 30MHz – 1GHz were then formally measured using a CISPR Quasi-Peak detector.

The measurements were performed at a 3m distance unless otherwise stated.



2.2 SPURIOUS RADIATED EMISSIONS TRANSMIT - continued

2.2.6 Test Results

Equipment Designation: Intentional Radiator.

The EUT met the requirements of FCC CFR 47: Part 15 Subpart B, Section 15.209 for Spurious Radiated Emissions (30MHz – 1GHz).

EUT Tx on Channel 1 (917.3MHz)

The levels of the six highest emissions measured in accordance with the specification are presented below: -

| Emission Frequency | Polarisation | Height | Azimuth | Field S | trength | L | imit |
|-----------------------|-------------------------|--------|---------|---------|---------|--------|-------|
| MHz | Horizontal/ Vertical | cm | degree | dBµV/m | μV/m | dBµV/m | μV/m |
| 258.7 | Н | 100 | 126 | 30.0 | 31.6 | 46.0 | 200.0 |
| 272.8 | Н | 100 | 126 | 32.5 | 42.2 | 46.0 | 200.0 |
| 799.4 | Н | 100 | 139 | 36.7 | 68.4 | 46.0 | 200.0 |
| 902.5 | Н | 100 | 140 | 38.5 | 84.1 | 46.0 | 200.0 |
| 924.7 | Н | 100 | 140 | 40.0 | 100.0 | 46.0 | 200.0 |
| 932.1 | Н | 100 | 137 | 37.1 | 71.6 | 46.0 | 200.0 |

EUT Tx on Channel 2 (917.8MHz)

The levels of the six highest emissions measured in accordance with the specification are presented below: -

| Emission Frequency | Polarisation | Height | Azimuth | Field S | trength | L | imit |
|-----------------------|-------------------------|--------|---------|---------|---------|--------|-------|
| MHz | Horizontal/ Vertical | cm | degree | dBµV/m | μV/m | dBµV/m | μV/m |
| 272.8 | Н | 100 | 141 | 34.3 | 51.8 | 46.0 | 200.0 |
| 287.5 | Н | 100 | 140 | 32.2 | 40.7 | 46.0 | 200.0 |
| 799.8 | Н | 100 | 140 | 40.3 | 103.5 | 46.0 | 200.0 |
| 903.0 | Н | 100 | 143 | 41.1 | 113.5 | 46.0 | 200.0 |
| 925.2 | Н | 100 | 142 | 42.3 | 130.3 | 46.0 | 200.0 |
| 932.5 | Н | 100 | 139 | 40.4 | 104.7 | 46.0 | 200.0 |



2.2.7 Set Up Photo



Set Up Photograph



2.3 MAXIMUM CARRIER FIELD STRENGTH

2.3.1 Specification Reference

FCC CFR 47: Part 15 Subpart C, Section 15.249(a)

2.3.2 Equipment Under Test

Promethean ActivSlate

2.3.3 Date of Test

14th May 2004

2.3.4 Test Equipment Used

The major items of test equipment used for the above tests are identified as "Section 2.3" within the Test Equipment Used table shown in Section 3.1.

2.3.5 Test Procedure

Test Performed in accordance with ANSI C63.4.

The EUT contains an integral antenna and therefore the Maximum Peak Carrier Power was made using the field strength method.

The Spectrum Analyser was tuned to the test frequency. The device Output Power setting was controlled as specified in the Product Information, Section 1.5 of this document. The device was then rotated through 360 degrees until the highest power level was observed in both horizontal and vertical polarisation. The device was then measured using a Peak Detector.

2.3.6 Test Results

The EUT met the requirements of FCC CFR 47: Part 15 Section 249(a) for Maximum Carrier Field Strength.

Measurements were made with the EUT Transmitting.

| Carrier Frequency (MHz) | Measured (mV/m) | Margin (mV/m) | Measured (dBμV/m) | Margin (dBμV/m) |
|-------------------------------|--------------------|------------------|----------------------|--------------------|
| 917.3 | 41.69 | 8.31 | 92.4 | 1.6 |
| 917.8 | 41.21 | 8.79 | 92.3 | 1.7 |
| Limit | 50m | nV/m | 94.0 c | dBμV/m |



2.4 SPURIOUS RADIATED EMISSIONS

2.4.1 Specification Reference

FCC CFR 47: Part 15 Subpart C, Section 15.249(d)

2.4.2 Equipment Under Test

Promethean ActivSlate

2.4.3 Date of Test

5th March 2004

2.4.4 Test Equipment Used

The major items of test equipment used for the above tests are identified as "Section 2.4" within the Test Equipment Used table shown in Section 3.1.

2.4.5 Test Procedure

Test Performed in accordance with ANSI C63.4.

FCC CFR 47: Part 15 Subpart C, Section 15.249(a), for Radiated Emissions also requires Section 15.209 to be applied.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

Using the information from the preliminary profiling of the EUT. The list of emissions was then confirmed or updated under Alternative Open Site conditions. Emission levels were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

Emissions identified within the range 1GHz – 10GHz were then formally measured using Peak and Average Detectors, as appropriate.

The measurements were performed at a 3m distance unless otherwise stated.



2.4 SPURIOUS RADIATED EMISSIONS - continued

2.4.6 Test Results

30MHz - 1GHz Frequency Range

EUT Tx on Channel 1 (917.3MHz)

The EUT met the requirements of FCC CFR 47: Part 15 Subpart C, Section 15.249(d) for Radiated Emissions (30MHz – 1GHz).

The levels of the six highest emissions measured in accordance with the specification are presented below: -

| Emission Frequency | Polarisation | Height | Azimuth | Field S | trength | L | .imit |
|-----------------------|-------------------------|--------|---------|---------|---------|--------|-------|
| MHz | Horizontal/ Vertical | cm | degree | dBµV/m | μV/m | dBµV/m | μV/m |
| 258.7 | Н | 100 | 126 | 30.0 | 31.6 | 46.0 | 200.0 |
| 272.8 | Н | 100 | 126 | 32.5 | 42.2 | 46.0 | 200.0 |
| 799.4 | Н | 100 | 139 | 36.7 | 68.4 | 46.0 | 200.0 |
| 902.5 | Н | 100 | 140 | 38.5 | 84.1 | 46.0 | 200.0 |
| 924.7 | Н | 100 | 140 | 40.0 | 100.0 | 46.0 | 200.0 |
| 932.1 | Н | 100 | 137 | 37.1 | 71.6 | 46.0 | 200.0 |

EUT Tx on Channel 2 (917.8MHz)

The levels of the six highest emissions measured in accordance with the specification are presented below: -

| Emission Frequency | Polarisation | Height | Azimuth | Field S | trength | L | imit |
|-----------------------|-------------------------|--------|---------|---------|---------|--------|-------|
| MHz | Horizontal/ Vertical | cm | degree | dBµV/m | μV/m | dBµV/m | μV/m |
| 272.8 | Н | 100 | 141 | 34.3 | 51.8 | 46.0 | 200.0 |
| 287.5 | Н | 100 | 140 | 32.2 | 40.7 | 46.0 | 200.0 |
| 799.8 | Н | 100 | 140 | 40.3 | 103.5 | 46.0 | 200.0 |
| 903.0 | Н | 100 | 143 | 41.1 | 113.5 | 46.0 | 200.0 |
| 925.2 | Н | 100 | 142 | 42.3 | 130.3 | 46.0 | 200.0 |
| 932.5 | Н | 100 | 139 | 40.4 | 104.7 | 46.0 | 200.0 |



2.4 SPURIOUS RADIATED EMISSIONS - continued

2.4.5 Test Results - continued

1GHz - 10GHz Frequency Range

Equipment Designation: Intentional Radiator.

The EUT met the requirements of FCC CFR 47: Part 15 Subpart C, Section 15.249(d) for Radiated Emissions (1GHz – 10GHz).

EUT Tx on Channel 1 (917.3MHz)

| Fraguenay | Anto | enna | FIEID I | | Peak | Average Field | Average |
|-----------|------|--------|---------|----------|--------|------------------|---------|
| Frequency | Pol | Height | Azimuth | Strength | Limit | Strength | Limit |
| GHz | H/V | cm | deg | dBμV/m | dBµV/m | dΒμV/m | dBμV/m |
| 2.752 | Н | 100 | 242 | 50.0 | 74.0 | 46.8 | 54.0 |
| 3.669 | Н | 100 | 084 | 48.8 | 74.0 | 41.2 | 54.0 |
| 3.669 | V | 100 | 287 | 49.3 | 74.0 | 43.3 | 54.0 |

EUT Tx on Channel 2 (917.8MHz)

| Frequency | Anto | Antenna Turntable Peak Field | | Peak | Average Field | Average | |
|-----------|------|------------------------------|---------|----------|------------------|----------|--------|
| Frequency | Pol | Height | Azimuth | Strength | Limit | Strength | Limit |
| GHz | H/V | cm | deg | dBμV/m | dΒμV/m | dBμV/m | dBµV/m |
| 2.753 | Н | 100 | 236 | 50.0 | 74.0 | 46.6 | 54.0 |
| 3.671 | Н | 100 | 086 | 48.3 | 74.0 | 41.2 | 54.0 |
| 3.671 | ٧ | 100 | 298 | 49.7 | 74.0 | 43.0 | 54.0 |

ABBREVIATIONS FOR ABOVE TABLES

H Horizontal Polarisation V Vertical Polarisation

Pol Polarisation Hgt Height deg degree Azm Azimuth

No other emissions were detected above 3.671GHz.



2.4 SPURIOUS RADIATED EMISSIONS - continued

2.4.7 Set Up Photograph



Spurious Radiated Emissions Set Up Photograph



2.5 CONDUCTED EMISSIONS ON POWER LINES

2.5.1 Specification Reference

FCC CFR 47: Part 15 Subpart C, Section 15.207

2.5.2 Equipment Under Test

Promethean ActivSlate

2.5.3 Date of Test

8th July 2004

2.5.4 Test Equipment Used

The major items of test equipment used for the above tests are identified as "Section 2.5" within the Test Equipment Used table shown in Section 3.1.

2.5.5 Test Procedure

Test performed in accordance with ANSI C63.4.

Conducted Emission Measurements were undertaken within the semi-anechoic chamber. Emissions were measured on the Live and Neutral Lines in turn.

Emissions were formally measured using a Quasi-Peak and Average Detectors, which meet the CISPR requirements. The details of the worst-case emissions for the Live and Neutral Lines are presented in Tables Below.

The EUT was powered from a 120V, 60Hz supply.



2.5 CONDUCTED EMISSIONS ON POWER LINES - continued

2.5.6 Test Results

Equipment Designation: Intentional Radiator.

The EUT met the requirements of FCC CFR 47: Part 15 Subpart C, Section 15.207 for Power Line Conducted Emissions (0.15MHz – 30MHz).

EUT Tx on Channel 1 (917.3MHz) - Live Line

The levels of the six highest emissions measured in accordance with the specification are presented below: -

| Emission Frequency (MHz) | Quasi-Peak Level (dBµV) | Quasi-Peak Limit (dBµV) | Average Level (dBµV) | Average Limit (dΒμV) |
|--------------------------------|-------------------------------|-------------------------------|----------------------------|----------------------------|
| 0.1500 | 34.9 | 66.0 | 28.9 | 56.0 |
| 0.1923 | 36.7 | 63.9 | 26.3 | 53.9 |
| 0.2396 | 33.6 | 62.1 | 26.8 | 52.1 |
| 1.2168 | 22.3 | 56.0 | 18.4 | 46.0 |
| 3.5470 | 23.1 | 56.0 | 18.1 | 46.0 |
| 23.8469 | 26.0 | 60.0 | 19.4 | 50.0 |

The margin between the specification requirements and all other emissions was 39.5dB or more below the specified Quasi-Peak limit and 34.9dB or more below the Average limit.

EUT Tx on Channel 1 (917.3MHz) - Neutral Line

The levels of the six highest emissions measured in accordance with the specification are presented below: -

| Emission Frequency (MHz) | Quasi-Peak Level (dBµV) | Quasi-Peak Limit (dBµV) | Average Level (dBµV) | Average Limit (dBµV) |
|--------------------------------|-------------------------------|-------------------------------|----------------------------|----------------------------|
| 0.1555 | 30.7 | 65.7 | 26.7 | 55.7 |
| 0.2082 | 33.9 | 63.3 | 30.2 | 53.3 |
| 0.2767 | 30.9 | 60.9 | 26.0 | 50.9 |
| 0.4624 | 18.8 | 56.7 | 14.5 | 46.7 |
| 12906 | 22.8 | 56.0 | 21.0 | 46.0 |
| 2.0464 | 25.9 | 56.0 | 23.8 | 46.0 |

The margin between the specification requirements and all other emissions were 37.6dB or more below the specified Quasi-peak limit and 32.0dB or more below the specified Average limit.



2.5 CONDUCTED EMISSIONS ON POWER LINES - continued

2.5.6 Test Results - continued

EUT Tx on Channel 2 (917.8MHz) - Live Line

The levels of the six highest emissions measured in accordance with the specification are presented below: -

| Emission Frequency (MHz) | Quasi-Peak Level (dBµV) | Quasi-Peak Limit (dBµV) | Average Level (dBµV) | Average Limit (dBµV) |
|--------------------------------|-------------------------------|-------------------------------|----------------------------|----------------------------|
| 0.2037 | 36.9 | 63.4 | 33.5 | 53.4 |
| 0.2716 | 35.3 | 61.1 | 31.2 | 51.1 |
| 0.3394 | 32.5 | 59.2 | 27.6 | 49.2 |
| 0.4073 | 31.4 | 57.7 | 26.9 | 47.7 |
| 1.9687 | 28.5 | 56.0 | 26.7 | 46.0 |
| 3.1227 | 26.9 | 56.0 | 25.7 | 46.0 |

The margin between the specification requirements and all other emissions were 28.9dB or more below the specified Quasi-Peak limit and 21.6dB or more below the Average limit.

EUT Tx on Channel 2 (917.8MHz) - Neutral Line

The levels of the six highest emissions measured in accordance with the specification are presented below: -

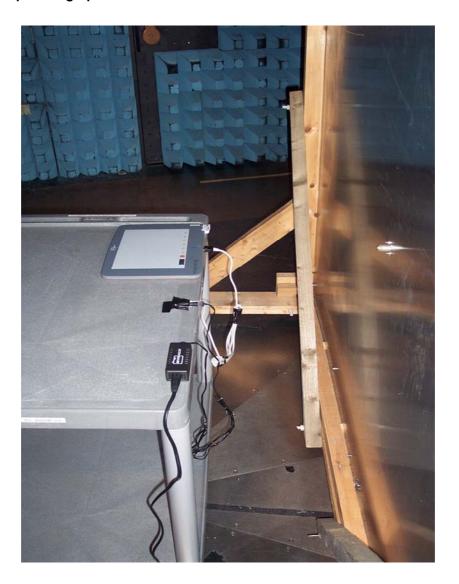
| Emission Frequency (MHz) | Quasi-Peak Level (dBµV) | Quasi-Peak Limit (dBµV) | Average Level (dBµV) | Average Limit (dBµV) |
|--------------------------------|-------------------------------|-------------------------------|----------------------------|----------------------------|
| 0.2024 | 35.5 | 63.5 | 32.7 | 53.5 |
| 0.2725 | 32.8 | 61.0 | 28.3 | 51.0 |
| 0.3406 | 31.1 | 59.2 | 26.6 | 49.2 |
| 0.4087 | 28.9 | 57.7 | 21.6 | 47.7 |
| 0.6261 | 25.4 | 56.0 | 22.5 | 46.0 |
| 2.6568 | 23.3 | 56.0 | 21.5 | 46.0 |

The margin between the specification requirements and all other emissions were 32.5dB or more below the specified Quasi-peak limit and 26.1dB or more below the specified Average limit.



2.5 CONDUCTED EMISSIONS ON POWER LINES - continued

2.5.7 Set Up Photograph



Conducted Emissions on Power Lines Set Up Photograph



SECTION 3

TEST EQUIPMENT USED AND MEASUREMENT UNCERTAINTY



3.1 TEST EQUIPMENT USED

| Instrument | Manufacturer | Type No | Serial No | EMC No | Cal. Due | |
|----------------------|-----------------|--------------------------|------------------|--------|------------|--|
| Section 2.1 | | | | | | |
| Spectrum Analyser | Hewlett Packard | 8542E | 3617A00165_00154 | 2286 | 09/12/2004 | |
| Bilog Antenna | Schaffner | CBL6143 | 5102 | 2965 | 12/09/2005 | |
| Turntable Controller | No Data | HD 050 | 050/396 | 2528 | - | |
| Screened Room 5 | Siemens | EAC54300 | NA | 2533 | _ | |
| Section 2.2 | | | | | | |
| Spectrum Analyser | Hewlett Packard | 8542E | 3617A00165_00154 | 2286 | 09/12/2004 | |
| Bilog Antenna | Schaffner | CBL6143 | 5102 | 2965 | 12/09/2005 | |
| Turntable Controller | No Data | HD 050 | 050/396 | 2528 | - | |
| Screened Room 5 | Siemens | EAC54300 | NA | 2533 | - | |
| Section 2.3 | Section 2.3 | | | | | |
| Spectrum Analyser | Hewlett Packard | 8542E | 3617A00165_00154 | 2286 | 09/12/2004 | |
| Bilog Antenna | Schaffner | CBL6143 | 5102 | 2965 | 12/09/2005 | |
| Turntable Controller | No Data | HD 050 | 050/396 | 2528 | - | |
| Screened Room 5 | Siemens | EAC54300 | NA | 2533 | - | |
| Section 2.4 | | | | | | |
| Turntable Controller | No Data | HD 050 | 050/396 | 2528 | - | |
| Screened Room 5 | Siemens | EAC54300 | NA | 2533 | - | |
| Low Noise Amplifier | Miteq Corp | AMF-3d-001080-18- 13P | UNK | 2457 | - | |
| HF Amplifier | Miteq Corp | AMF-4F-080180 | 492562 | 2430 | - | |
| EMI Test Receiver | Rohde & Schwarz | ESIB40 | 100142/040 | 2917 | 11/02/2005 | |
| Emco 3115 DRG Ant | Emco | 3115 | 97015079 | 2397 | 04/07/2004 | |
| Signal Generator | Marconi | 2031 | 119530069 | 1979 | 30/10/2004 | |
| Signal Generator | Hewlett Packard | 8673B | 2147A00423 | 954 | 14/06/2004 | |

TU = Traceability Unscheduled.



3.1 TEST EQUIPMENT USED (continued)

| Section 2.5 | | | | | |
|-------------------|-----------------|---------|------------|------|----------|
| Test Receiver | Rohde & Schwarz | ESH3 | 872742/002 | 1020 | 16/08/04 |
| Spectrum Monitor | Rohde & Schwarz | EZM | 892242-023 | 1416 | |
| Transient Limiter | Hewlett Packard | 11947A | 3107A01647 | 2243 | 21/04/05 |
| Three Phase LISN | Rohde & Schwarz | ESH2-Z5 | 892107-019 | 1584 | 01/10/04 |



3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

| IN THE FREQUENCY RANGE 30MHz TO 1000MHz | | | | | |
|--|--|---|--|--|--|
| TEST | FREQUENCY | AMPLITUDE | | | |
| For Power Line Conducted Emissions, LISN | ±2x10 ⁻⁷ x Centre Frequency | ±3.2dB calculated in accordance with CISPR 16-4 | | | |
| For Radiated Emissions, Quasi-Peak Measurements taken in Zero Span using the Hewlett Packard EMI Receiver and Bilog Antenna | ±2x10 ⁻⁷ x Centre Frequency | 5.15dB calculated in accordance with CISPR 16-4 | | | |
| IN THE FREQUENCY RANGE 1GHz TO 10GHz | | | | | |
| TEST | FREQUENCY | AMPLITUDE | | | |
| For Spurious Radiated Emissions measurements | ±2x10 ⁻⁷ x Centre Frequency | ±6.3dB | | | |



SECTION 4

ACCREDITATION, DISCLAIMERS AND COPYRIGHT



4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT



This report relates only to the actual item/items tested.

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.

Results of tests not covered by our UKAS Accreditation Schedule are marked NUA (Not UKAS Accredited).

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APPENDIX A

TITCHFIELD FCC SITE COMPLIANCE LETTER



FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division 7435 Oakland Mills Road Columbia, MD 21646

October 18, 2002

Registration Number: 90987

TUV Product Service Ltd Segensworth Road Titchfield Fareham, Hampshire, PO15 5RH United Kingdom

Attention:

Kevan Adsetts

Re:

Measurement facility located at Titchfield

Anechoic chamber (3 meters) and 3 & 10 meter OATS

Date of Listing: October 18, 2002

Gentlemen:

Your request for registration of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC rules. The information has, therefore, been placed on file and the name of your organization added to the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely, Thomas M. Chillyp

Thomas W Phillips Electronics Engineer