# **REPORT ON**

EMC Testing of a Posjet 1000

FCC ID: RBPPJ1000

Report No OO611347/1

September 2003







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**REPORT ON** EMC Testing of a Posjet 1000

FCC ID: RBPPJ1000

Report No OO611347/1

September 2003

PREPARED FOR Transact Technologies Incorporated

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**APPROVED BY** 

C H Gould Chief Engineer

**DATED** 09-09-03

**DISTRIBUTION** Transact Technologies Incorporated

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## **ENGINEERING STATEMENT**

**I ATTEST:** the measurements shown in this report were made in accordance with the procedures indicated, and that the emissions from this equipment were found to be within the applicable limits. I assume full responsibility for the accuracy and completeness of these measurements. On the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of Part 15 of the FCC Rules under normal use and maintenance.

G Lawler Test Engineer

UKAS TESTING 0141 Group A Guy Test Engineer Copy 1



## **STATUS**

OBJECTIVE To undertake measurements to determine the Equipment

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

MANUFACTURING DESCRIPTION Posjet 1000

MANUFACTURER Transact Technologies Incorporated

MANUFACTURERS MODEL NUMBER Posjet 1000

SERIAL NUMBER Not Serialised

TEST SPECIFICATION NUMBER 47 CFR Part 15: 2002

REGISTRATION NUMBER Y611347

QUANTITY OF ITEMS TESTED Two

SECURITY CLASSIFICATION OF EUT Unclassified

INCOMING RELEASE Electronic Commercial Invoice

SERIAL NUMBER 625912447074 DATE 11<sup>th</sup> July 2003

DISPOSAL Held Pending Disposal

ORDER NUMBER Email

DATE 13<sup>th</sup> June 2003

START OF TEST 4<sup>th</sup> August 2003 FINISH OF TEST 8<sup>th</sup> August 2003

TEST ENGINEERS G Lawler

A Guy

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 40GHz.

EN 55022: 1998. Information Technology Equipment – radio Disturbance Characteristics – limits and Methods of

Measurement.



## SYSTEM CONFIGURATION DURING EMC TESTING

The Posjet 1000 together with all associated cabling, was set-up simulating a typical user installation on the Alternative Open Field Test Site, then tested in accordance with the specification.

The EUT was functioning correctly prior to test and was tested with the EUT operating at frequencies of 2.412GHz, 2.437GHz and 2.462GHz.



# **EMISSION TESTING**

Instrumentation used for Emission Testing:

Instrument	Manufacturer	Type No	EMC No	Cal to
EMI Receiver	Hewlett Packard	8542E	2286	13-12-03
Bilog Antenna	Chase	CBL 6143	2860	11-04-04
Turntable & Controller	HD Gmhb	HD 050	2528	TU
Antenna Mast	EMCO	1051/2070	_	TU
Antenna Mast Controller	EMCO	2090	_	TU
Low Noise Amplifier (1-8GHz)	Miteq	AMF-3D-001080-18-13P	2457	TU
EMI Receiver	Rhode & Schwarz	ESIB 40	2917	04-02-04
Horn	EMCO	3115	2397	04-07-04
Signal Generator	Hewlett Packard	8672A	411	26-02-04
Transient Limiter	Hewlett Packard	11947A	2243	23-01-04
Three Phase LISN	Rohde & Schwarz	ESH2-Z5	2380	08-01-04
Hygrometer	Rotronic	A1	INV4066	28-11-03
Barometer	Diplex	-	1938	TU
Amplifier 8 – 18GHz	Avantek	AWT 18036	1081	26-06-04
Amplifier 18 – 26.5GHz	Avantek	AMT 26177-33	2072	26-06-04
Screened Enclosure	Siemens	EAC54300	2533	TU

TU Traceability Unscheduled



#### RADIATED ELECTRIC FIELD EMISSIONS TEST PROCEDURE

Testing to the requirements of FCC Part 15 Subpart C, Section 15.209, for Radiated Electric Field Emissions.

A preliminary profile of the Radiated Emissions was obtained by operating the Equipment Under Test (EUT) on a remotely controlled turntable within a semi-anechoic chamber; measurements were taken at a 3m distance unless otherwise stated. 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, a search was made in the frequency range 30MHz to 25GHz. The list of worst case emissions was then confirmed or updated under Open Site conditions. Emission levels were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

30MHz – 1GHz emissions levels were then formally measured using a CISPR Quasi-Peak detector. 1GHz – 25GHz emissions levels were then formally measured using Peak and Average detectors.

(Note: Peak measurements performed using a Resolution and Video Bandwidth of 1MHz, Average measurements performed using a Resolution Bandwidth of 1MHz and a Video Bandwidth of 10Hz)

Measurements were made with the EUT transmitting on the following channels.

Bottom: 2412MHz Middle: 2437MHz Top: 2462MHz

Radiated Emissions from 30MHz to 1GHz were made using a HP 8542E Test Receiver.

Radiated Emissions from 1GHz to 25GHz were made using a Rhode and Schwarz ESIB 40 Test Receiver.

The test was performed in accordance with ANSI C63.4.

The EUT was connected to a 115V 60Hz supply.

The results are presented in Tables 1 to 3 (30MHz to 1GHz) and Tables 4 to 6 (1GHz to 25GHz).

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## RADIATED ELECTRIC FIELD TEST RESULTS

Equipment Designation: Intentional Radiator.

The EUT met the requirements of 47 CFR part 15, Subpart C, Section 15.209, for Radiated Electric Field Emissions, where the EUT was operating at 2.412GHz.

The emissions were measured at 3m.

#### EUT Tx on Bottom Channel (2.412GHz).

<u>30MHz – 1GHz Alternative Open Area Test Site Results</u>: The levels of the 7 highest emissions measured in accordance with the specification are presented in Table 1 below:-

Emission Frequency	Pol	Hgt	Hgt Azm Field Strength at 3m Specification Li		. •		tion Limit
MHz	H/V	cm	deg	dBµV/m	μV/m	dBµV/m	μV/m
80.01	V	100	269	32.0	39.8	40.0	100
160.10	V	100	000	32.2	40.7	43.5	150
209.10	Н	149	063	35.9	62.4	43.5	150
224.10	Н	138	070	43.3	146.2	46.0	200
240.20	Н	114	067	40.1	101.2	46.0	200
260.00	Н	102	060	37.7	76.7	46.0	200
320.00	Н	100	163	37.7	76.7	46.0	200

#### Table 1

The margin between the specification requirements and all other emissions was 9.5dB or more below the specification limit.

## **ABBREVIATIONS FOR ABOVE TABLE**

H Horizontal Polarisation V Vertical Polarisation Pol Polarisation Hgt Height

deg degree Azm Azimuth

Procedure Test Performed in accordance with ANSI C63.4.

<u>Performed</u> by G Lawler, EMC Engineer.

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## RADIATED ELECTRIC FIELD TEST RESULTS

Equipment Designation: Intentional Radiator.

The EUT met the requirements of 47 CFR part 15, subpart C, Section 15.209, for Radiated Electric Field Emissions, where the EUT was operating at 2.437GHz.

The emissions were measured at 3m.

#### EUT Tx on Middle Channel (2.437GHz).

<u>30MHz – 1GHz Alternative Open Area Test Site Results</u>: The levels of the 6 highest emissions measured in accordance with the specification are presented in Table 2 below:-

Emission Frequency	Pol	Hgt	Hgt Azm Field Strength at Specification Lir		. •		tion Limit
MHz	H/V	cm	deg	dBµV/m	μV/m	dBµV/m	μV/m
80.02	V	100	262	31.5	37.6	40.0	100
208.10	V	135	077	36.3	65.3	43.5	150
224.10	Н	132	072	43.5	149.6	46.0	200
240.10	Н	117	064	40.4	104.7	46.0	200
260.00	Н	100	061	37.2	72.4	46.0	200
528.30	V	100	226	37.2	72.4	46.0	200

#### Table 2

The margin between the specification requirements and all other emissions was 9.4dB or more below the specification limit.

## **ABBREVIATIONS FOR ABOVE TABLE**

H Horizontal Polarisation V Vertical Polarisation Pol Polarisation Hgt Height

deg degree Azm Azimuth

Procedure Test Performed in accordance with ANSI C63.4.

Performed by G Lawler, EMC Engineer.

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## RADIATED ELECTRIC FIELD TEST RESULTS

Equipment Designation: Intentional Radiator.

The EUT met the requirements of 47 CFR Part 15, Subpart C, Section 15.209, for Radiated Electric Field Emissions, where the EUT was operating at 2.462GHz.

The emissions were measured at 3m.

## EUT Tx on Top Channel (2.462GHz).

<u>30 MHz – 1GHz Alternative Open Area Test Site Results</u>: The levels of the 6 highest emissions measured in accordance with the specification are presented in Table 3 below:-

Emission Frequency	Pol	Hgt	Hgt Azm Field Strength at 3m Specification Li		. •		tion Limit
MHz	H/V	cm	deg	dBµV/m	μV/m	dBµV/m	μV/m
80.02	V	100	259	32.8	43.7	40.0	100
208.10	Н	140	072	35.8	61.7	43.5	150
224.10	Н	130	068	43.4	147.9	46.0	200
240.20	Н	123	064	40.5	105.9	46.0	200
260.00	Н	100	060	38.7	86.1	46.0	200
320.00	Н	100	167	38.3	82.2	46.0	200

#### Table 3

The margin between the specification requirements and all other emissions was 9.3dB or more below the specification limit.

## **ABBREVIATIONS FOR ABOVE TABLE**

H Horizontal Polarisation V Vertical Polarisation Pol Polarisation Hgt Height

deg degree Azm Azimuth

Procedure Test Performed in accordance with ANSI C63.4.

Performed by G Lawler, EMC Engineer.

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## **RADIATED EMISSIONS TEST RESULTS**

## 1GHz - 25GHz Range

Equipment Designation: Intentional Radiator.

The EUT met the requirements of 47 CFR Part 15, Subpart C, Section 15.247 (c ) for Radiated Emissions (1GHz – 25GHz).

## **EUT Tx on Bottom Channel (2.412GHz)**

Frequency	Antenna		Field Strength	Limit (Peak)	Field Strength	Limit (Average)	
	Polarisation	Height	Azimuth	(Peak) at 3m		(Average) at 3m	
GHz	H/V	cm	Deg	dBµV/m	dBµV/m	dBµV/m	dBµV/m
4.075	V	102	124	52.2	74.0	48.2	54.0
4.824	Н	121	195	47.9	74.0	40.7	54.0

#### Table 4

## **EUT Tx on Middle Channel (2.437GHz)**

Frequency	Antenna			Field Strength	Limit (Peak)	Field Strength	Limit (Average)
	Polarisation	Height	Azimuth	(Peak) at 3m		(Average) at 3m	
GHz	H/V	cm	Deg	dBμV/m	dBµV/m	dBµV/m	dBµV/m
4.125	Н	100	309	53.3	74.0	50.7	54.0
4.873	Н	118	194	49.7	74.0	43.9	54.0

#### Table 5

## **EUT Tx on Top Channel (2.462GHz)**

Frequency	F	Antenna		Field Strength	Limit (Peak)	Field Strength	Limit (Average)
	Polarisation	Height	Azimuth	(Peak) at 3m	(i caix)	(Average) at 3m	(/werage)
GHz	H/V	cm	Deg	dBµV/m	dBµV/m	dBµV/m	dBµV/m
4.175	V	156	077	54.7	74.0	51.9	54.0

#### Table 6

<u>Procedure</u>: Test Performed in accordance with ANSI C63.4.

Performed by: A Guy, EMC Engineer.

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#### RADIATED EMISSIONS

#### MEASUREMENT AT THE BAND EDGE (Marker Delta Method)

The following Test Results were obtained using the FCC Public Notice document (DA 00-705 released 30 March 2000) for making measurements at the Band Edge, incorporating the 'Marker Delta Method'.

#### Step 1

Bottom Channel Fundamental Field Strength Measurement.

Performed in accordance with ANSI C63.4

Peak measurements performed utilising a Resolution Bandwidth and Video Bandwidth of 1MHz. Average measurements performed utilising a Resolution Bandwidth of 1MHz and Video Bandwidth of 10Hz.

Freq	Ant Pol	Hgt	Azi	Peak Field Strength	Average Field Strength
GHz	H/V	cm	deg	dBµV/m	dBµV/m
2.412	Н	122	155	111.9	111.5

#### Step 2

Determine Marker Delta amplitude between 2.412GHz fundamental and 2.390GHz the Band Edge under investigation.

Using a span of 1MHz with Resolution Bandwidth and Video Bandwidth of 1MHz.

2.412GHz Peak using above instrument settings = 77.0dB $\mu$ V 2.390GHz Peak using above instrument settings = 16.3dB $\mu$ V

Therefore Marker Delta Amplitude  $(77.0 dB\mu V - 16.3 dB\mu V) = 60.7 dB\mu V$ 

#### Step 3

Subtracting the Marker Delta obtained from Step 2 from the 2.412GHz Field Strength measurement from Step 1, gives the following Result

Peak of 111.9dB $\mu$ V/m – 60.7dB (Delta) = 51.2dB $\mu$ V/m (Limit is 91.6dB $\mu$ V/m = Pass)

Average of  $111.5dB\mu V/m - 60.7dB$  (Delta) =  $50.8dB\mu V/m$  (Limit is  $54.0dB\mu V/m = Pass$ )

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#### RADIATED EMISSIONS

## MEASUREMENT AT THE BAND EDGE (Marker Delta Method)

#### Step 1

Top Channel Fundamental Field Strength Measurement.

Performed in accordance with ANSI C63.4

Peak measurements performed utilising a Resolution Bandwidth and Video Bandwidth of 1MHz. Average measurements performed utilising a Resolution Bandwidth of 1MHz and Video Bandwidth of 10Hz.

Freq	Ant Pol	Hgt	Azi	Peak Field Strength	Average Field Strength
GHz	H/V	cm	deg	dBµV/m	dBµV/m
2.462	Н	179	145	112.9	112.5

#### Step 2

Determine Marker Delta amplitude between 2.462GHz fundamental and 2.462GHz the Band Edge under investigation.

Using a span of 30MHz with Resolution Bandwidth and Video Bandwidth of 300kHz.

2.462GHz Peak using above instrument settings =  $77.4dB\mu V$  2.483GHz Peak using above instrument settings =  $16.3dB\mu V$ 

Therefore Marker Delta Amplitude (77.4dB $\mu$ V – 16.3dB $\mu$ V) = 61.1dB $\mu$ V

#### Step 3

Subtracting the Marker Delta obtained from Step 2 from the 2.462GHz Field Strength measurement from Step 1, gives the following Result

Peak of  $112.9dB\mu V/m - 61.1dB$  (Delta) =  $51.8dB\mu V/m$  (Limit is  $92.8dB\mu V/m = Pass$ )

Average of  $112.5dB\mu V/m - 61.1dB$  (Delta) =  $51.4dB\mu V/m$  (Limit is  $54.0dB\mu V/m = Pass$ )

EUT meets the measurement at the Band Edge requirements for the Top and Bottom Channel.

Procedure: Test Performed in accordance with FCC Public Notice document

(DA 00-705 released 30 March 2000)

Performed by: A Guy, EMC Engineer.

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## CONDUCTED EMISSIONS ON POWER LINES (TERMINAL VOLTAGES) TEST PROCEDURE

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

Emissions were formally measured using a Quasi-Peak Detector which meets the CISPR requirements. The details of the worst case emissions were then recorded in the Job Log Book. Details of the worst case emissions for the Live and Neutral Lines are presented in Tables 7 and 8, Tables 9 and 10, and Table 11 and 12 with the EUT operating at 2.412GHz, 2.437GHz and 2.462GHz, respectively.

The EUT was connected to a 115V 60Hz supply.

The Conducted Emission measurements were made using a Hewlett Packard 8542E EMI Receiver.

The test was performed in accordance with EN 55022

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Equipment Designation: Intentional Radiator. Live Line.

The EUT met the requirements of 47 CFR Part 15, Subpart C, Section 15.207 for Conducted Emissions on the Live Line with the EUT operating at 2.412GHz.

## EUT Tx on Bottom Channel (2.412GHz).

<u>Conducted Emissions Live Line</u>: A search was made in the frequency range 150kHz to 30MHz. The levels of the 7 highest emissions were measured in accordance with the specification and are presented in Table 7 below:-

Emission Frequency	Quasi-Peak Level	Average Level	Quasi-Peak Limit	Average Limit	Pass /
MHz	dΒμV	dΒμV	dΒμV	dΒμV	Fail
0.1601	44.8	18.4	65.5	55.5	Pass
0.1649	44.1	19.0	65.2	55.2	Pass
0.2167	35.0	31.6	61.4	51.4	Pass
0.4370	37.5	35.4	57.1	47.1	Pass
0.6112	34.7	33.3	56.0	46.0	Pass
2.3050	36.8	36.3	56.0	46.0	Pass
3.3170	34.3	30.0	56.0	46.0	Pass

Table 7

The margin between the specification requirements and all other emissions was 26.4dB or more below the specified Quasi-Peak limit and 37.7dB or more below the specified Average limit.

<u>Procedure</u> Test performed in accordance with EN 55022.

<u>Performed by</u> G Lawler, EMC Engineer.



Equipment Designation: Intentional Radiator. Neutral Line.

The EUT met the requirements of 47 CFR part 15, subpart C, Section 15.207 for Conducted Emissions on the Neutral Line with the EUT operating at 2.412GHz.

## EUT Tx on Bottom Channel (2.412 GHz).

<u>Conducted Emissions Neutral Line</u>: A search was made in the frequency range 150kHz to 30MHz. The levels of the 6 highest emissions were measured in accordance with the specification and are presented in Table 8 below:-

Emission Frequency	Quasi-Peak Level	Average Level	Quasi-Peak Limit	Average Limit	Pass /
MHz	dΒμV	dΒμV	dΒμV	dΒμV	Fail
0.1675	44.7	26.9	65.2	55.2	Pass
0.2606	38.0	35.6	61.4	51.4	Pass
0.4364	38.2	37.3	57.1	47.1	Pass
0.6104	34.1	33.4	56.0	46.0	Pass
2.3050	36.9	36.4	56.0	46.0	Pass
3.3160	33.5	29.4	56.0	46.0	Pass

#### Table 8

The margin between the specification requirements and all other emissions was 23.4dB or more below the specified Quasi-Peak limit and 28.2dB or more below the specified Average limit.

<u>Procedure</u> Test performed in accordance with EN 55022.

<u>Performed by</u> G Lawler, EMC Engineer.

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Equipment Designation: Intentional Radiator. Live Line.

The EUT met the requirements of 47 CFR Part 15, Subpart C, Section 15.207 for Conducted Emissions on the Live Line with the EUT operating at 2.437GHz.

## EUT Tx on Middle Channel (2.437 GHz).

<u>Conducted Emissions Live Line</u>: A search was made in the frequency range 150kHz to 30MHz. The levels of the 6 highest emissions were measured in accordance with the specification and are presented in Table 9 below:-

Emission Frequency	Quasi-Peak Level	Average Level	Quasi-Peak Limit	Average Limit	Pass /
MHz	dΒμV	dΒμV	dΒμV	dΒμV	Fail
0.1652	44.9	20.4	65.2	55.2	Pass
0.2604	35.6	31.6	61.4	51.4	Pass
0.4353	39.4	37.8	57.2	47.2	Pass
0.6090	33.5	32.0	56.0	46.0	Pass
2.3060	36.7	36.2	56.0	46.0	Pass
3.5640	30.9	26.2	56.0	46.0	Pass

#### Table 9

The margin between the specification requirements and all other emissions was 25.1dB or more below the specified Quasi-Peak limit and 34.8dB or more below the specified Average limit.

<u>Procedure</u> Test performed in accordance with EN 55022.

<u>Performed by</u> G Lawler, EMC Engineer.

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Equipment Designation: Intentional Radiator. Neutral Line.

The EUT met the requirements of 47 CFR part 15, Subpart C, Section 15.207 for Conducted Emissions on the Neutral Line with the EUT operating at 2.437GHz.

## EUT Tx on Middle Channel (2.437GHz).

<u>Conducted Emissions Neutral Line</u>: A search was made in the frequency range 150kHz to 30MHz. The levels of the 6 highest emissions were measured in accordance with the specification and are presented in Table 10 below:-

Emission Frequency	Quasi-Peak Level	Average Level	Quasi-Peak Limit	Average Limit	Pass / Fail
MHz	dΒμV	dΒμV	dΒμV	dΒμV	
0.1751	44.5	36.2	64.7	54.7	Pass
0.2623	37.9	35.1	61.4	51.4	Pass
0.4343	39.5	39.0	57.2	47.2	Pass
0.6093	31.8	30.6	56.0	46.0	Pass
2.3040	36.5	35.7	56.0	46.0	Pass
3.5660	29.1	25.6	56.0	46.0	Pass

#### Table 10

The margin between the specification requirements and all other emissions was 26.9dB or more below the specified Quasi-Peak limit and 20.4dB or more below the specified Average limit.

<u>Procedure</u> Test performed in accordance with EN 55022.

<u>Performed by</u> G Lawler, EMC Engineer.

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Equipment Designation: Intentional Radiator. Live Line.

The EUT met the requirements of 47 CFR Part 15, Subpart C, Section 15.207 for Conducted Emissions on the Live Line with the EUT operating at 2.462GHz.

## EUT Tx on Top Channel (2.462GHz).

<u>Conducted Emissions Live Line</u>: A search was made in the frequency range 150kHz to 30MHz. The levels of the 7 highest emissions were measured in accordance with the specification and are presented in Table 11 below:-

T					
Emission Frequency	Quasi-Peak Level	Average Level	Quasi-Peak Limit	Average Limit	Pass /
MHz	dΒμV	dΒμV	dΒμV	dΒμV	Fail
0.1642	40.2	18.2	65.3	55.3	Pass
0.2572	28.9	23.5	61.5	51.5	Pass
0.4340	33.9	32.0	57.2	47.2	Pass
0.5213	37.8	36.2	56.0	46.0	Pass
0.6070	32.2	30.5	56.0	46.0	Pass
2.6920	31.1	29.8	56.0	46.0	Pass
3.6470	29.4	27.8	56.0	46.0	Pass

## Table 11

The margin between the specification requirements and all other emissions was 32.6dB or more below the specified Quasi-Peak limit and 37.1dB or more below the specified Average limit.

<u>Procedure</u> Test performed in accordance with EN 55022.

<u>Performed by</u> G Lawler, EMC Engineer.



Equipment Designation: Intentional Radiator. Neutral Line.

The EUT met the requirements of 47 CFR part 15, Subpart C, Section 15.207 for Conducted Emissions on the Neutral Line with the EUT operating at 2.462GHz.

## EUT Tx on Top Channel (2.462GHz).

<u>Conducted Emissions Neutral Line</u>: A search was made in the frequency range 450kHz to 30MHz. The levels of the 7 highest emissions were measured in accordance with the specification and are presented in Table 12 below:-

Emission Frequency	Quasi-Peak Level	Average Level	Quasi-Peak Limit	Average Limit	Pass /
MHz	dΒμV	dΒμV	dΒμV	dΒμV	Fail
0.1673	40.1	21.6	65.1	55.1	Pass
0.2607	33.5	31.3	61.4	51.4	Pass
0.4342	33.9	33.0	57.2	47.2	Pass
0.5219	35.6	35.1	56.0	46.0	Pass
0.6084	31.3	30.3	56.0	46.0	Pass
2.5180	29.9	28.5	56.0	46.0	Pass
3.5610	29.4	27.9	56.0	46.0	Pass

Table 12

The margin between the specification requirements and all other emissions was 27.9dB or more below the specified Quasi-Peak limit and 33.5dB or more below the specified Average limit.

<u>Procedure</u> Test performed in accordance with EN 55022.

<u>Performed by</u> G Lawler, EMC Engineer.



## **FCC SITE COMPLIANCE LETTER**

# FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division 7435 Oakland Mills Road Columbia, MD 21046

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 <a href="www.fcc.gov">www.fcc.gov</a> under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

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Sincerely,

Thomas W Phillips Electronics Engineer



## **PHOTOGRAPHS OF EUT**



Photograph showing Posjet 1000 (EUT) and associated computer



Photograph showing Set-up for Radiated Emissions



## **SYSTEM MEASUREMENT UNCERTAINTY**

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

For Radiated Emissions, Quasi-Peak Measurements taken in using the Hewlett Packard 8542E EMI Receiver:-

Amplitude  $\pm 3.7$ dB (30MHz to 1000MHz)  $\pm 4.3$ dB (1GHz to 25GHz)

For Conducted Emissions, Quasi-Peak Measurements taken in using the Hewlett Packard 8542E EMI Receiver:-

Amplitude ±3.4dB

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

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