TEST RESULT SUMMARY

FCC PART 15 SUBPART C Section 15.209

MANUFACTURER'S NAME	Petronix Inc
NAME OF EQUIPMENT	Indoor Zone Control/Outdoor Zone Control Pet Containment System – 10 kHz transmitter
MODEL NUMBER	**5000/6000**
MANUFACTURER'S ADDRESS	9 Captain Samuel Forbush Road PO Box 1085 Westboro MA 01581-3556
TEST REPORT NUMBER	W0654
TEST DATE	12-13 December 2000

According to testing performed at TÜV Product Service Inc, the above-mentioned unit is in compliance with the electromagnetic compatibility requirements defined in FCC Part 15 Subpart C Section 15.209.

It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics. Any modifications necessary for compliance made during testing on the above mentioned date(s) must be implemented in all production units for compliance to be maintained.

TÜV Product Service Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the requirements of FCC Part 15 Subpart C Section 15.209.

Date: 29 January 2001

Location: Taylors Falls MN
USA

G. S. Jakubowski
Test Engineer

J. T. Schneider
Lead Engineer

Not Transferable

EMC EMISSION - T E S T R E P O R T

Test Report File No.	:	**WC1G065401**	Date of issue:	29 January 2001

Model No.	:	**5000/6000**
Product Type	:	Indoor Zone Control/Outdoor Zone Control Pet Containment System – 10 kHz transmitter
Applicant	:	Petronix Inc
Manufacturer	:	Petronix Inc
License holder	:	Petronix Inc
Address	:	9 Captain Samuel Forbush Road
	:	PO Box 1085
	:	Westboro MA 01581-3556
Test Result	:	■ **Positive** ☐ **Negative**
Test Project Number Reference(s)	:	**W0654**
Total pages including Appendices		25

TÜV Product Service Inc is a subcontractor to TÜV Product Service, GmbH according to the principles outlined in ISO/IEC Guide 25 and EN 45001. TÜV Product Service Inc reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. TÜV Product Service Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV Product Service Inc issued reports. This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval. This report shall not be used by the client to claim product endorsement by NVLAP or any agency of the US government.

TÜV Product Service Inc and its professional staff hold government and professional organization certifications and are members of AAMI, ACIL, AEA, ANSI, IEEE, NVLAP, and VCCI

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

D I R E C T O R Y - EMISSIONS

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

☐ - EN 50081-1 / 1991

☐ - EN 55011 / 1991 ☐ - Group 1 ☐ - Group 2
☐ - Class A ☐ - Class B

☐ - EN 55013 / 1990

☐ - EN 55014 / 1987 ☐ - Household appliances and similar
☐ - Portable tools
☐ - Semiconductor devices

☐ - EN 55014 / A2:1990

☐ - EN 55014 / 1993 ☐ - Household appliances and similar
☐ - Portable tools
☐ - Semiconductor devices

☐ - EN 55015 / 1987

☐ - EN 55015 / A1:1990

☐ - EN 55015 / 1993

☐ - EN 55022 / 1987 ☐ - Class A ☐ - Class B

■ - FCC Part 15 Subpart C Section 15.209

☐ - BS

☐ - VCCI ☐ - Class A ☐ - Class B

☐ - FCC ☐ - Class A ☐ - Class B

☐ - AS 3548 (1992) ☐ - Class A ☐ - Class B

☐ - CISPR 11 (1990) ☐ - Group 1 ☐ - Group 2
☐ - Class A ☐ - Class B

☐ - CISPR 22 (1993) ☐ - Class A ☐ - Class B

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Environmental conditions in the lab:

	Actual
Temperature	: 23 °C
Relative Humidity	: 9 %
Atmospheric pressure	: 99.6 kPa
Power supply system	: 60 Hz – 115 VAC – 1 phase

Sign Explanations:

☐ - not applicable
■ - applicable

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CONDUCTED EMISSIONS on AC power leads

No conducted emissions were measured within 30 dB of the 15.207 limit from the outdoor zone controller. No conducted emissions were measured within 30 dB of the 15.207 limit from the indoor zone controller.

The *CONDUCTED EMISSIONS (INTERFERENCE VOLTAGE*) measurements were performed at the following test location:

☐ **- Test not applicable**

☐ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)
☐ - Oakwood Lab (Open Area Test Site)
■ - Wild River Lab Screen Room
☐ - New Brighton Lab Shielded Room

Test equipment used :

	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ -	3825/2	EMCO	50 Ω LISN	8812-1439	4-01
■ -	ESHS-20	Rhode-Schwarz	EMI Receiver	837055/003	3-01

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

Conducted emissions on the 60 Hz power interface of the EUT are measured in the frequency range of 150 kHz to 30 MHz. The measurements are performed using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection, and a Line Impedance Stabilization Network (LISN), with 50 Ω/50 μH (CISPR 16) characteristics. Table top equipment is placed on a non-conducting table 80 centimeters above the floor and is positioned 40 centimeters from the vertical ground plane (wall) of the screen room. In some cases, a pre-scan using a spectrum analyzer is initially performed on the units comprising the system under test to locate the highest emissions. If the minimum passing margin appears to be less than 20 dB with a peak mode measurement, the emissions are re-measured using a tuned receiver or spectrum analyzer with quasi-peak and average detection and recorded on the data sheets.

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Field Strength of Fundamental

The fundamental was measured to have a field strength of 4466 μV/m (73 dBμV/m) at 10.1 kHz at a 30 meter distance at several angles from the outdoor zone controller with 100 meters of wireattached to the transmitter and laid out as a circle on the surface of the ground. This method is per the advice of Mr. Charles Cobbs of the FCC per 1997 fax (available on request). Using inverse linear distance extrapolation factor of 40 dB/decade, the extrapolated limit is 22387 μV/m (87 dBμV/m). The indoor zone controller generated a field strength of 630 μV/m (56 dBμV/m) at a 30 meter distance. The level was taken directly from the receiver, which has the antenna factor and cable loss in memory.

The Field Strength of Fundamental measurements were performed at the following test location:

☐ **- Test not applicable**

■ - Wild River Lab Large Test Site
☐ - Wild River Lab Small Test Site (Open Area Test Site)
☐ - Oakwood Lab (Open Area Test Site)

at a test distance of :

☐ - 3 meters
☐ - 10 meters
■ - 30 meters

Test equipment used :

	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ -	ESHS-20	Rhode-Schwarz	EMI Receiver	837055/003	3-01
■ -	HFH2-Z2	Polarad	Loop Antenna	879285/036	12-01

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

Radiated emissions from the EUT are measured in the frequency range of 9 kHz to 30 MHz using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection and a shielded loop antenna. The antenna is positioned 10 and 30 meters horizontally from the EUT. To locate maximum emissions from the test sample the antenna is positioned with its plane vertical and rotated about its vertical axis for maximum response at each azimuth about the EUT. The center of the loop antenna is 1 meter above the ground. The field strength levels were measured per ANSI C63.4.

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Field Strength of Spurious Emissions

The highest level spurious emission below 30 MHz was from the external zone controller. The third harmonic was measured to have a field strength of 1412 μV/m (63 dBμV/m) at 30.4 kHz at a 10 meter antenna distance, compared to an extrapolated limit of 7943 μV/m (78 dBμV/m) at 30 meters. The 10 meter levels from the external zone controller are a minimum of 15 dB below the 30 meter limit. At 30 meters, no levels could be detected above the system noise level. The level was taken directly from the receiver, which has the antenna factor and cable loss in memory.

Freq. (MHz)	Max. Receiver reading	Factor	dBuV/m	μV/m	30 m Limit(μV/m)	distance from EUT
.0304	43	20	63	1412	7943	10 meters
.0407	22	20	42	125	5623	10 meters
.0508	37	20	57	707	4466	10 meters
.0711	33	20	53	446	3162	10 meters
.0914	29	20	49	281	2511	10 meters
.1117	25	20	45	177	1995	10 meters
.1218	6	20	26	20	1778	10 meters
.132	23	20	43	141	1778	10 meters

The highest level spurious emission below 30 MHz from the internal zone controller was the seventh harmonic, which was measured to have a field strength of 100 μV/m (40 dBμV/m) at 71.1 kHz at a 10 meter antenna distance, compared to an extrapolated limit of 7943 μV/m (78 dBμV/m) at 30 meters. The 10 meter levels from the internal zone controller are a minimum of 38 dB below the 30 meter limit. At 30 meters, no levels could be detected above the system noise level. The level was taken directly from the receiver, which has the antenna factor and cable loss in memory.

Freq. (MHz)	Max. Receiver reading	Factor	dBuV/m	μV/m	30 m Limit(μV/m)	distance from EUT
.0305	17	20	37	71	7943	10 meters
.0508	11	20	31	35	4466	10 meters
.0711	20	20	40	100	3162	10 meters
.0914	9	20	29	28	2511	10 meters
.1117	5	20	25	18	1995	10 meters
.132	1	20	21	11	1778	10 meters

Above 30 MHz, the following levels were measured for the internal and external zone controllers. The levels are a minimum of 5 dB below the limit.

Freq. (MHz)	dBuV	Cable/Ant/Preamp	dBuV/m	Pol/Hgt/Az	μV/m	Limit(μV/m)	distance from EUT
48.9	44.5	1.2/14.5/25.5	34.7	V/1.0/198	54	100	3 meters
44.0	40.2	1.2/15.9/25.5	31.8	V/1.0/209	39	100	3 meters
48.0	38.6	1.2/14.7/25.5	29.1	V/1.0/90	29	100	3 meters
60.8	36.4	1.2/11.6/25.5	23.6	V/1.0/90	16	100	3 meters
64.0	33.1	1.2/10.8/25.5	19.5	V/1.0/270	10	100	3 meters
124.6	33.9	1.4/8.7/25.6	18.4	H/3.0/90	9	100	3 meters
109.7	32.8	1.3/9.3/25.6	17.8	H/3.0/270	8	100	3 meters

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The Field Strength of spurious measurements were performed at the following test location:

☐ - Test not applicable

■ - Wild River Lab Large Test Site (Open Area Test Site – above 30 MHz)
■ - Wild River Lab Large Test Site (below 30 MHz)

Test equipment used :

	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ -	8566B	Hewlett-Packard	Spectrum Analyzer	2221A01596	12-04-01
■ -	85662A	Hewlett-Packard	Analyzer Display	2152A03640	12-04-01
■ -	85650A	Hewlett-Packard	Quasi-Peak Adapter	2811A01127	12-04-01
■ -	ESHS-20	Rhode-Schwarz	EMI Receiver	837055/003	3-01
■ -	HFH2-Z2	Polarad	Loop Antenna	879285/036	12-01
■ -	EM-6917B	Electro-Metrics	Biconicalog Antenna	101	9-01
■ -	3115	EMCO	Horn Antenna	9001-3275	10-01
■ -	ZHL-1042J	Mini-Circuits	Preamplifier	H072294-11	3-01
■ -	AFT-8434	Avantek	Preamplifier	9112 Z221	3-01

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

Radiated emissions from the EUT are measured in the frequency range of 9 kHz to 30 MHz using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection and a shielded loop antenna. The antenna is positioned 10 and 30 meters horizontally from the EUT. The EUT is configured as per the fundamental measurement. To locate maximum emissions from the test sample the antenna is positioned with its plane vertical and rotated about its vertical axis for maximum response at each azimuth about the EUT. The center of the loop antenna is 1 meter above the ground. Radiated emissions from the EUT are measured in the frequency range of 30 MHz to 5 GHz using a spectrum analyzer and appropriate broadband linearly polarized antennas. Measurements between 30 MHz and 1000 MHz are made with 120 kHz/6 dB bandwidth and quasi-peak detection and measurements above 1000 MHz are made with a 1 MHz/6 dB bandwidth and peak detection. For this portion of the testing, the indoor zone control antenna is used. Table top equipment is placed on a 1.0 X 1.5 meter non-conducting table 80 centimeters above the ground plane. Interface cables that are closer than 40 centimeters to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimeters from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna is positioned 3 meters horizontally from the EUT, but moved in closer if the signal levels are too low to measure at 3 meters. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarizations and the EUT are rotated 360 degrees. The EUT is rotated through three orthogonal axes in order to determine the maximum position for emissions. The field strength levels were measured per ANSI C63.4.

Equipment Under Test (EUT) Test Operation Mode - Emission tests :

The device under test was operated under the following conditions during emissions testing:

☐ - Standby

☐ - Test program (H - Pattern)

☐ - Test program (color bar)

☐ - Test program (customer specific)

☐ - Practice operation

■ - Normal Operating Mode

☐ - _____

Configuration of the device under test:

The following peripheral devices and interface cables were connected during the measurement:

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

■ - unshielded power cable

■ - unshielded cables

☐ - shielded cables MPS.No.: _____

☐ - customer specific cables

☐ - _____

☐ - _____

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DEVIATIONS FROM STANDARD:

None

GENERAL REMARKS:

SUMMARY:

The requirements according to the technical regulations are

■ - met

☐ - **not** met.

The device under test does

■ - fulfill the general approval requirements mentioned on page 3.

☐ - **not** fulfill the general approval requirements mentioned on page 3.

Testing Start Date: 12 December 2000

Testing End Date: 13 December 2000

- TÜV PRODUCT SERVICE INC -

Reviewed By:
J. T. Schneider

Tested By:
G. S. Jakubowski

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB
Large Test Site

See Test Setup Exhibit

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Radiated emission & conducted emission test setup photos

See Test Setup Exhibit

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Appendix A

Constructional Data Form

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Form

EMC Test Plan and Constructional Data Form

PRODUCT SERVICE

PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE.

Applicant -- ***NOTE: This information will be input into your test report as shown below.***
Press the F1 key at any time to get HELP for the current field selected.

Company:	Petronix, Inc.		
Address:	Nine Capt. Samuel Forbush Rd.		
	P.O. Box 1085		
	Westboro, MA 01581-3556		
Contact:	Dave Paquette	Position:	President
Phone:	508-836-5586	Fax:	508-836-5587
E-mail Address:	petronix@charter.net		

General Equipment Description -- ***NOTE: This information will be input into your test report as shown below.***

EUT Description	Pet containment system indoor zone control unit
EUT Name	Indoor Zone Control
Model No.:	5000 Serial No.:
Product Options:	NA
Configurations to be tested:	One

Test Objective

- ☐ EMC Directive 89/336/EEC (EMC) Std:
- ☐ Machinery Directive 89/392/EEC (EMC Std:
- ☐ Medical Device Directive 93/42/EEC (EMC) Std:
- ☐ Vehicle Directive 72/245/EEC (EMC) Std:
- ☐ FDA Reviewers Guidance for Premarket Notification Submissions (EMC)

- ☒ FCC: Class ☐ A ☒ B Part 15
- ☐ VCCI: Class ☐ A ☐ B
- ☐ BCIQ: Class ☐ A ☐ B
- ☐ Canada: Class ☐ A ☐ B
- ☐ Australia: Class ☐ A ☐ B
- ☐ Other:

TÜV Product Service Certification Requested

- ☐ Attestation of Conformity (AoC)
- ☐ Certificate of Conformity (CoC)
- ☐ International EMC Mark (IEM)
- ☒ Compliance Document

Protection Class (N/A for vehicles) ☐ Class I ☒ Class II ☐ Class III

(Press **F1** when field is selected to show additional information on Protection Class.)

Attendance

Test will be: ☒ Attended by the customer ☐ Unattended by the customer

Form

EMC Test Plan and Constructional Data Form

Failure - ***Complete this section if testing will not be attended by the customer.***

If a failure occurs, TUV Product Service should:

☐ Call contact listed above, if not available then stop testing. (After hrs phone): _____

☐ Continue testing to complete test series.

☐ Continue testing to define corrective action.

☐ Stop testing.

EUT Specifications and Requirements

Length: 5.0" Width: 3.0" Height: 1.1" Weight: 4 oz.

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 117VAC 60Hz (If battery powered, make sure battery life is sufficient to complete testing.)

# of Phases: 1

Current (Amps/phase(max)): .2 Current (Amps/phase(nominal)): .1

Other NA

Other Special Requirements

None

Typical Installation and/or Operating Environment

(ie. Hospital, Small Business, Industrial/Factory, etc.)

Home

EUT Power Cable

☐ Permanent OR ☒ Removable Length (in meters): 2

☐ Shielded OR ☒ Unshielded

☐ Not Applicable

EMC Test Plan and Constructional Data Form

TÜV PRODUCT SERVICE

EUT Interface Ports and Cables

Interface				Shielding								
Type	Analog	Digital	Qty	Yes	No	Type	Termination	Connector Type	Port Termination	Length (in meters)	Removable	Permanent
EXAMPLE: *RS232*	☐	☒	*2*	☒	☐	*Foil over braid*	*Coaxial*	*Metallized 9-pin D-Sub*	*Characteristic Impedance*	*6*	☒	☐
	☐	☐		☐	☐						☐	☐
	☐	☐	0	☐	☐					0	☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
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	☐	☐		☐	☐						☐	☐
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	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐

Form

EMC Test Plan and Constructional Data Form

EUT Software.

Revision Level:

Description: NA

EUT Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. Normal operating mode - Periodic polling from Console and regular generation of 10KHz field.

2.

3.

EUT System Components -- List and describe all components which are part of the EUT. For FCC testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc.)

Description	Model #	Serial #	FCC ID #
Console	3000		NWY-3000
Indoor Zone Control	5000		NWY-5000
Outdoor Zone Control	6000		NWY-6000
Collar	9000		NWY-9000
Note* Not to be tested at the same time			

EMC Test Plan and Constructional Data Form

TÜV PRODUCT SERVICE

Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc)

Description	*Model #*	*Serial #*	*FCC ID #*
None			

Oscillator Frequencies

Frequency	*Derived Frequency*	*Component # / Location*	*Description of Use*
16MHz	16MHz	Y1	Microprocessor clock

Power Supply

Manufacturer	*Model #*	*Serial #*	*Type*
Foxlink	FA-4A090	NA	☐ Switched-mode: (Frequency) 60Hz ☒ Linear ☐ Other:
			☐ Switched-mode: (Frequency) ☐ Linear ☐ Other:

Power Line Filters

Manufacturer	*Model #*	*Location in EUT*
None		

Form

EMC Test Plan and Constructional Data Form

Critical EMI Components (Capacitors, ferrites, etc.)

Description	*Manufacturer*	*Part # or Value*	*Qty*	*Component # / Location*
None				

EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

None

(PLEASE INSERT "**ELECTRONIC SIGNATURE**" BELOW IF POSSIBLE)

Authorization Signatures

Customer authorization to perform tests according to this test plan.	Date
Test Plan/CDF Prepared By (please print)	Date
Reviewed by TÜV Product Service Associate	Date

Form

EMC Test Plan and Constructional Data Form

PRODUCT SERVICE

PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE.

Applicant -- ***NOTE: This information will be input into your test report as shown below.***
Press the F1 key at any time to get HELP for the current field selected.

Company:	Petronix, Inc.		
Address:	Nine Capt. Samuel Forbush Rd.		
	P.O. Box 1085		
	Westboro, MA 01581-3556		
Contact:	Dave Paquette	Position:	President
Phone:	508-836-5586	Fax:	508-836-5587
E-mail Address:	petronix@charter.net		

General Equipment Description -- ***NOTE: This information will be input into your test report as shown below.***

EUT Description	Pet containment system outdoor zone control unit
EUT Name	Outdoor Zone Control
Model No.:	6000 Serial No.:
Product Options:	NA
Configurations to be tested:	One

Test Objective

☐ EMC Directive 89/336/EEC (EMC) Std:	☒ FCC:	Class	☐ A	☒ B	Part	15		
☐ Machinery Directive 89/392/EEC (EMC Std:	☐ VCCI:	Class	☐ A	☐ B				
☐ Medical Device Directive 93/42/EEC (EMC) Std:	☐ BCIQ:	Class	☐ A	☐ B				
☐ Vehicle Directive 72/245/EEC (EMC) Std:	☐ Canada:	Class	☐ A	☐ B				
☐ FDA Reviewers Guidance for Premarket Notification Submissions (EMC)	☐ Australia:	Class	☐ A	☐ B				
	☐ Other:							

TÜV Product Service Certification Requested

☐ Attestation of Conformity (AoC)	☐ International EMC Mark (IEM)
☐ Certificate of Conformity (CoC)	☒ Compliance Document

Protection Class (N/A for vehicles) ☐ Class I ☒ Class II ☐ Class III

(Press **F1** when field is selected to show additional information on Protection Class.)

Attendance

Test will be: ☒ Attended by the customer ☐ Unattended by the customer

Form

EMC Test Plan and Constructional Data Form

Failure - ***Complete this section if testing will not be attended by the customer.***

If a failure occurs, TUV Product Service should:

☐ Call contact listed above, if not available then stop testing. (After hrs phone): _____

☐ Continue testing to complete test series.

☐ Continue testing to define corrective action.

☐ Stop testing.

EUT Specifications and Requirements

Length: 5.0" Width: 3.0" Height: 1.1" Weight: 3 oz.

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 117VAC 60Hz (If battery powered, make sure battery life is sufficient to complete testing.)

# of Phases: 1

Current (Amps/phase(max)): .2 Current (Amps/phase(nominal)): .1

Other NA

Other Special Requirements

None

Typical Installation and/or Operating Environment

(ie. Hospital, Small Business, Industrial/Factory, etc.)

Home

EUT Power Cable

☐ Permanent OR ☒ Removable Length (in meters): 2

☐ Shielded OR ☒ Unshielded

☐ Not Applicable

TÜV PRODUCT SERVICE

EMC Test Plan and Constructional Data Form

EUT Interface Ports and Cables

Interface				Shielding								
Type	Analog	Digital	Qty	Yes	No	Type	Termination	Connector Type	Port Termination	Length (in meters)	Removable	Permanent
EXAMPLE: *RS232*	☐	☒	*2*	☒	☐	*Foil over braid*	*Coaxial*	*Metallized 9-pin D-Sub*	*Characteristic Impedance*	*6*	☒	☐
Wire drive	☐	☒	1	☐	☒				NA	50	☒	☐
	☐	☐	0	☐	☐					0	☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
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	☐	☐		☐	☐						☐	☐
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	☐	☐		☐	☐						☐	☐

Form

EMC Test Plan and Constructional Data Form

EUT Software.

Revision Level:

Description: NA

EUT Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. Normal operating mode - Periodic polling from Console and regular generation of 10KHz field via wire loop.

2.

3.

EUT System Components -- List and describe all components which are part of the EUT. For FCC testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc.)

Description	Model #	Serial #	FCC ID #
Console	3000		NWY-3000
Indoor Zone Control	5000		NWY-5000
Outdoor Zone Control	6000		NWY-6000
Collar	9000		NWY-9000
Note* Not to be tested at the same time			

Form

EMC Test Plan and Constructional Data Form

Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc)

Description	*Model #*	*Serial #*	*FCC ID #*
None			

Oscillator Frequencies

Frequency	*Derived Frequency*	*Component # / Location*	*Description of Use*
16MHz	16MHz	Y1	Microprocessor clock

Power Supply

Manufacturer	*Model #*	*Serial #*	*Type*
Foxlink	FA-4A090	NA	☐ Switched-mode: (Frequency) 60Hz ☒ Linear ☐ Other:
			☐ Switched-mode: (Frequency) ☐ Linear ☐ Other:

Power Line Filters

Manufacturer	*Model #*	*Location in EUT*
None		

Form

EMC Test Plan and Constructional Data Form

Critical EMI Components (Capacitors, ferrites, etc.)				
Description	***Manufacturer***	***Part # or Value***	***Qty***	***Component # / Location***
None				

EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

None

(PLEASE INSERT "**ELECTRONIC SIGNATURE**" BELOW IF POSSIBLE)

Authorization Signatures

Customer authorization to perform tests according to this test plan.	Date
Test Plan/CDF Prepared By (please print)	Date
Reviewed by TÜV Product Service Associate	Date